Barb O'Bryen

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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Rebecca Kotz Examiner #: _____ Date: ~~7/8/02~~ 7/8/02

Art Unit: 1614 Phone Number 30_____ Serial Number: 09/868,106

Mail Box and Bldg/Room Location: 2411 2D01 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

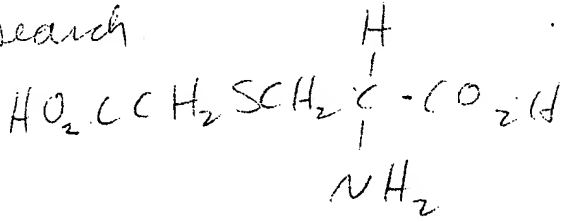
Title of Invention: Preventive for respiratory infectious diseases

Inventors (please provide full names): Tsuyoshi Nagatake

Earliest Priority Filing Date: 12/22/97

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search



Thanks
Rebecca

Rush Search Approved
Thurman K. Page
SPE, AU 1615

Point of Contact:
Barb O'Bryen
Technical Information Specialist
STIC CM1 6A05 308-4291

****

STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
Searcher: 80073	NA Sequence (#)		STN	339
Searcher Phone #:	AA Sequence (#)		Dialog	
Searcher Location:	Structure (#)	1	Questel/Orbit	
Date Searcher Picked Up:	Bibliographic		Dr.Link	
Date Completed: 7-9-02	Litigation		Lexis/Nexis	
Searcher Prep & Review Time: 23	Fulltext		Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	
Online Time: 38	Other		Other (specify)	

PTO-1590 (8-01)

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=> fil reg; d que 19
FILE 'REGISTRY' ENTERED AT 09:15:25 ON 09 JUL 2002
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Calculated physical property data is now available.  See HELP PROPERTIES
for more information.  See STNote 27, Searching Properties in the CAS
Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf


L4            72 SEA FILE=REGISTRY ABB=ON  C5H9NO4S/MF
L5            38 SEA FILE=REGISTRY ABB=ON  L4 NOT RSD/FA
L6            10 SEA FILE=REGISTRY ABB=ON  L5 AND (ALANINE OR CYSTEINE)
L7             7 SEA FILE=REGISTRY ABB=ON  L6 NOT (ESTER OR N CARBOXYMETHYL)
L9             6 SEA FILE=REGISTRY ABB=ON  L7 NOT (N METHOXYCARBONYL)


=> fil hcapl; d que l26; d que l31; s l26 or l31
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FILE LAST UPDATED: 8 Jul 2002  (20020708/ED)

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the CAS Roles thesaurus (/RL field) in this file.


L4            72 SEA FILE=REGISTRY ABB=ON  C5H9NO4S/MF
L5            38 SEA FILE=REGISTRY ABB=ON  L4 NOT RSD/FA
L6            10 SEA FILE=REGISTRY ABB=ON  L5 AND (ALANINE OR CYSTEINE)
L7             7 SEA FILE=REGISTRY ABB=ON  L6 NOT (ESTER OR N CARBOXYMETHYL)
L9             6 SEA FILE=REGISTRY ABB=ON  L7 NOT (N METHOXYCARBONYL)
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many references! used terms from inventor's work to narrow answer set

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L17          545 SEA FILE=HCAPLUS ABB=ON  L9
L18       118750 SEA FILE=HCAPLUS ABB=ON  RESPIRATORY TRACT+NT/CT
L19           49 SEA FILE=HCAPLUS ABB=ON  L17 AND L18
L26           35 SEA FILE=HCAPLUS ABB=ON  L19 NOT PY>1997


L4            72 SEA FILE=REGISTRY ABB=ON  C5H9NO4S/MF
L5            38 SEA FILE=REGISTRY ABB=ON  L4 NOT RSD/FA
L6            10 SEA FILE=REGISTRY ABB=ON  L5 AND (ALANINE OR CYSTEINE)
L7             7 SEA FILE=REGISTRY ABB=ON  L6 NOT (ESTER OR N CARBOXYMETHYL)
L9             6 SEA FILE=REGISTRY ABB=ON  L7 NOT (N METHOXYCARBONYL)
L17          545 SEA FILE=HCAPLUS ABB=ON  L9
L20           62 SEA FILE=HCAPLUS ABB=ON  L17(L)(THU OR BAC OR PAC OR PKT OR
                 DMA)/RL
L27          228 SEA FILE=HCAPLUS ABB=ON  L17 AND PHARMAC?/SC,SX
L28          177 SEA FILE=HCAPLUS ABB=ON  (L20 OR L27) NOT PY>1997
L29           49 SEA FILE=HCAPLUS ABB=ON  L28 AND P/DT
L31           26 SEA FILE=HCAPLUS ABB=ON  L29 AND (INHALANT# OR EXPECTORANT# OR
                 MUCOLY? OR ?SNORING?)
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THU - Therapeutic use
BAC - biological activity
PAC - pharmacology
PKT - pharmaco-kinetics
DMA - drug mechanism of action

- Roles
- Patents as document type

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L32           56 L26 OR L31

=> fil medl; d que 146
FILE 'MEDLINE' ENTERED AT 09:21:57 ON 09 JUL 2002

 FILE LAST UPDATED: 7 JUL 2002 (20020707/UP). FILE COVERS 1958 TO DATE.

 On June 9, 2002, MEDLINE was reloaded. See HELP RLOAD for details.

 MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the
 MeSH 2002 vocabulary. Enter HELP THESAURUS for details.

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 SUBSTANCE IDENTIFICATION.


L34          252 SEA FILE=MEDLINE ABB=ON  CARBOCYSTEINE/CT
L40       164518 SEA FILE=MEDLINE ABB=ON  RESPIRATORY TRACT INFECTIONS+NT/CT
L43          140 SEA FILE=MEDLINE ABB=ON  L34(L)(TU OR PD OR PK OR AD)/CT
L44           93 SEA FILE=MEDLINE ABB=ON  L43/MAJ
L45           28 SEA FILE=MEDLINE ABB=ON  L44 AND L40
L46           26 SEA FILE=MEDLINE ABB=ON  L45 NOT PY>1997


=> dup rem 146,132
FILE 'MEDLINE' ENTERED AT 09:22:13 ON 09 JUL 2002

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PROCESSING COMPLETED FOR L32
L48           81 DUP REM L46 L32 (1 DUPLICATE REMOVED)
                 ANSWERS '1-26' FROM FILE MEDLINE
                 ANSWERS '27-81' FROM FILE HCAPLUS

=> d iall 1-26

L48  ANSWER 1 OF 81     MEDLINE                                  DUPLICATE 1
```

Subheadings
TU - therapeutic use
PD - pharmacology
PK - pharmacokinetics
AD - administration & dosage

ACCESSION NUMBER: 82202735 MEDLINE
DOCUMENT NUMBER: 82202735 PubMed ID: 7080939
TITLE: Effect of S-carboxymethylcysteine on the biophysical and biochemical properties of mucus in chronic bronchitics.
AUTHOR: Cox A; Jabbal-Gill I; Marriott C; Davis S S
SOURCE: ADVANCES IN EXPERIMENTAL MEDICINE AND BIOLOGY, (1982) 144 423-9.
Journal code: 0121103. ISSN: 0065-2598.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198207
ENTRY DATE: Entered STN: 19900317
Last Updated on STN: 20000303
Entered Medline: 19820708
CONTROLLED TERM: Check Tags: Human
***Bronchitis: PP, physiopathology**
***Carbocysteine: PD, pharmacology**
Chronic Disease
*Cysteine: AA, analogs & derivatives
Double-Blind Method
Glycoproteins: ME, metabolism
*Mucus: DE, drug effects
Mucus: ME, metabolism
Mucus: PH, physiology
*Sputum: DE, drug effects
Sputum: PH, physiology
Viscosity
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine)
CHEMICAL NAME: 0 (Glycoproteins)

L48 ANSWER 2 OF 81 MEDLINE
ACCESSION NUMBER: 1998010724 MEDLINE
DOCUMENT NUMBER: 98010724 PubMed ID: 9349882
TITLE: Improvement of mucosal pathology of the sinuses after exposure to sulfur dioxide by nebulization of S-carboxymethylcysteine.
AUTHOR: Sugiura Y; Ohashi Y; Nakai Y
CORPORATE SOURCE: Department of Otolaryngology, Osaka City University Medical School, Japan.
SOURCE: ACTA OTO-LARYNGOLOGICA. SUPPLEMENT, (1997) 531 10-6.
Journal code: 0370355. ISSN: 0365-5237.
PUB. COUNTRY: Norway
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199712
ENTRY DATE: Entered STN: 19980109
Last Updated on STN: 20000303
Entered Medline: 19971209

ABSTRACT:
Since s-carboxymethylcysteine (S-CMC) can directly enhance the ciliary activity in the maxillary sinus mucosa of patients with chronic sinusitis in the absence of significant organic changes of ciliated cells, the nebulization therapy using this medicine might be more effective in the treatment of chronic sinusitis than oral administration of the medicine. The safety of using 0.5-10% of S-SMC as a medicine for nebulization has been experimentally established. The present study was designed to experimentally examine the effectiveness of nebulization using 0.5-10% of S-CMC solution in the treatment of experimental chronic sinusitis in rabbits recurrently exposed to 20 ppm of sulfur dioxide. Thirty-three healthy rabbits were used; 3 of them were used as controls. The remaining 30 were exposed to 20 ppm of sulfur dioxide for 4 h a day for 4

successive weeks. Twelve animals were not treated with any medication during the post-exposure period, and sacrificed at 24 h or 15 days after completion of the final exposure to sulfur dioxide. The remaining 18 animals were treated with nebulization using 10%, 5% or 0.5% of S-CMC solution for 20 min a day for 14 successive days after the final exposure to sulfur dioxide, and they were sacrificed at 24 h after the final nebulization using S-CMC. At the time of sacrifice, the ciliary activity and the morphology of the sinus mucosa were observed to assess the effectiveness of S-CMC nebulization. In the animals sacrificed 24 h after the final exposure, the mucosa of the sinus demonstrated marked epithelial cell injuries, and the ciliary activity was extremely reduced. Complete recovery of the epithelium and the ciliary activity was not recognized in the animals sacrificed 15 days after completion of the exposure. By contrast, epithelial recovery was more accelerated in the animals treated with S-CMC nebulization during the 14 days after the exposure. In the animals treated with 0.5% of S-CMC, the ciliary activity was inferior to that of the control animals, and the epithelial repair was not complete. In the animals treated with 10% of S-CMC, however, ciliary activity and epithelial morphology were completely recovered. In conclusion, our study suggests that clinical application of 10% of S-CMC nebulization may provide otolaryngologists with a new tool in the treatment of sinus diseases such as chronic sinusitis.

CONTROLLED TERM: Check Tags: Animal
***Carbocysteine: TU, therapeutic use**
Chronic Disease
Cilia: UL, ultrastructure
Epithelium: UL, ultrastructure
Mucociliary Clearance: DE, drug effects
Nasal Mucosa: PA, pathology
Nasal Mucosa: UL, ultrastructure
Nebulizers and Vaporizers
Rabbits
Sinusitis: CI, chemically induced
***Sinusitis: DT, drug therapy**
Sinusitis: PA, pathology
Sinusitis: PP, physiopathology
Sulfur Dioxide

CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 7446-09-5 (Sulfur Dioxide)

L48 ANSWER 3 OF 81 MEDLINE
ACCESSION NUMBER: 1998010723 MEDLINE
DOCUMENT NUMBER: 98010723 PubMed ID: 9349881
TITLE: Nebulization of S-carboxymethylcysteine does not adversely affect the mucociliary system in the paranasal sinus and trachea of the healthy rabbit.

AUTHOR: Sugiura Y; Ohashi Y; Nakai Y
CORPORATE SOURCE: Department of Otolaryngology, Osaka City University Medical School, Japan.

SOURCE: ACTA OTO-LARYNGOLOGICA. SUPPLEMENT, (1997) 531 5-9.
Journal code: 0370355. ISSN: 0365-5237.

PUB. COUNTRY: Norway
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199712
ENTRY DATE: Entered STN: 19980109
Last Updated on STN: 20000303
Entered Medline: 19971209

ABSTRACT:
Chronic sinusitis is a persistent inflammatory impairment of the paranasal sinus. Disturbance of the mucociliary function in the paranasal sinus is the most common finding in chronic sinusitis. S-carboxymethylcysteine (S-CMC) has been shown to directly enhance the ciliary activity of the chronic sinusitis mucosa. Direct contact of the disturbed cilia with S-CMC may recover the

reduced beating activity of cilia in chronic sinusitis and the mucosal pathology of the disease can thus be improved. Before S-CMC as medicine for nebulization in the treatment of chronic sinusitis can be clinically applied, however, it should be experimentally established whether nebulization of S-CMC has any adverse effects on the mucociliary system of the respiratory mucosa. The present study was designed to experimentally examine the safety of nebulization of S-CMC especially with regard to the respiratory mucosa. Rabbits were treated with nebulization of three different concentrations of S-CMC solution for 20 min a day for 14 successive days, and their mucosal pathology of the sinus and trachea was examined and compared with that of healthy animals. Nebulization of concentrations of 0.5-10% of S-CMC solution did not affect the ciliary activity in the sinus and tracheal mucosa, nor did this treatment induce pathological changes such as epithelial injury and inflammatory cell accumulation. It is therefore concluded that concentrations of 0.5-10% S-CMC solution are quite safe for the use of nebulization in the treatment of chronic sinusitis.

CONTROLLED TERM: Check Tags: Animal
***Carbocysteine: AD, administration & dosage**
Carbocysteine: TU, therapeutic use
Chronic Disease
*Mucociliary Clearance: DE, drug effects
*Nasal Mucosa: DE, drug effects
Nasal Mucosa: PH, physiology
Nasal Mucosa: UL, ultrastructure
Nebulizers and Vaporizers
*Paranasal Sinuses: DE, drug effects
Paranasal Sinuses: PH, physiology
Paranasal Sinuses: UL, ultrastructure
Rabbits
Sinusitis: DT, drug therapy
Sinusitis: PP, physiopathology
*Trachea: DE, drug effects
Trachea: PH, physiology
Trachea: UL, ultrastructure
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine)

L48 ANSWER 4 OF 81 MEDLINE
ACCESSION NUMBER: 93273289 MEDLINE
DOCUMENT NUMBER: 93273289 PubMed ID: 8500784
TITLE: Carbocisteine improves the mucociliary transport rate in rats with SO2-induced bronchitis.
AUTHOR: Zahm J M; Levrier J; Duval D; Pierrot D; Puchelle E
CORPORATE SOURCE: INSERM U 314, CHR Maison Blanche, Reims, France.
SOURCE: FUNDAMENTAL AND CLINICAL PHARMACOLOGY, (1993) 7 (3-4) 155-60.
Journal code: 8710411. ISSN: 0767-3981.
PUB. COUNTRY: France
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199306
ENTRY DATE: Entered STN: 19930716
Last Updated on STN: 19930716
Entered Medline: 19930630

ABSTRACT:
In order to study the effect of carbocisteine on the mucociliary function of the respiratory tract, we performed a double-blind study on rats with SO2-induced (400 ppm) hypersecretion. During the experimental bronchitis, the treated group of rats received carbocisteine through a stomach tube at a dose level of 500 mg/kg for 15 days, whereas the untreated group of rats received distilled water. After killing the rats, and following lung excision, the respiratory mucus was scraped off and collected by using a glass capillary. The

mucus degree of purulence was macroscopically estimated and the mucus transport rate was measured by using the frog palate technique. The mean mucus relative transport rate, measured on the frog palate, was 0.60 +/- 0.17 in the untreated group and was significantly higher ($P < 0.01$) in the treated group (0.73 +/- 0.14). Carbocisteine also significantly altered ($P < 0.01$) the mucus macroscopical aspect, leading to a decrease in the number of rats with purulent mucus. These results suggest that carbocisteine maintains an efficient mucus transport rate, leading to a less infected respiratory tract.

CONTROLLED TERM: Check Tags: Animal; Male
***Bronchitis: PP, physiopathology**
***Carbocysteine: PD, pharmacology**
Double-Blind Method
Microscopy, Electron
*Mucociliary Clearance: DE, drug effects
Mucous Membrane: UL, ultrastructure
Mucus: ME, metabolism
Rats
Rats, Sprague-Dawley
Respiratory System: UL, ultrastructure
Sulfur Dioxide

CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 7446-09-5 (Sulfur Dioxide)

L48 ANSWER 5 OF 81 MEDLINE
ACCESSION NUMBER: 94078090 MEDLINE
DOCUMENT NUMBER: 94078090 PubMed ID: 8256077
TITLE: Effect of S-carboxymethylcysteine on ciliary activity in chronic sinusitis.
AUTHOR: Ohashi Y; Nakai Y; Sugiura Y; Ohno Y; Okamoto H; Hayashi M
CORPORATE SOURCE: Department of Otolaryngology, Osaka City University Medical School, Japan.
SOURCE: RHINOLOGY, (1993 Sep) 31 (3) 107-11.
Journal code: 0347242. ISSN: 0300-0729.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199401
ENTRY DATE: Entered STN: 19940203
Last Updated on STN: 19940203
Entered Medline: 19940111

ABSTRACT:
This study was designed to investigate the possible pharmacological effect of S-carboxy-methylcysteine (S-CMC) on the ciliary activity, using an in vitro experimental system after removing mucus. Ciliary activity from healthy rabbit maxillary sinus and from healthy human nasal mucosa demonstrated no significant change in RPMI 1640 containing S-CMC. On the other hand, the effect of S-CMC on the reduced ciliary activity from patients with chronic sinusitis was quite varied among the cases examined. S-CMC demonstrated no stimulatory effect on the beating activity of cilia that have a baseline activity of less than 400 beats/min. However, S-CMC was able to enhance the beating activity of cilia that demonstrated a baseline activity of more than 400 beats/min. S-CMC at 0.5% induced a larger ciliostimulatory effect than 0.05% S-CMC. In conclusion, our study has clearly demonstrated that S-CMC could directly enhance ciliary activity of chronic sinusitis in the absence of significant organic change of ciliated cells.

CONTROLLED TERM: Check Tags: Animal; Human; In Vitro
***Carbocysteine: PD, pharmacology**
Chronic Disease
Cilia: DE, drug effects
Cilia: PH, physiology
Maxillary Sinus: DE, drug effects

*Maxillary Sinus: PP, physiopathology
***Maxillary Sinusitis: PP, physiopathology**
Nasal Mucosa: PH, physiology
Rabbits
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine)

L48 ANSWER 6 OF 81 MEDLINE
ACCESSION NUMBER: 93008414 MEDLINE
DOCUMENT NUMBER: 93008414 PubMed ID: 1394568
TITLE: [Carbocysteine in the treatment of recurrent bronchitis in infants].
Karbocystein v liecbe recidivujucich bronchitid u dojciat.
AUTHOR: Banovcin P; Jakusova L; Rosslerova V; Miklerova M; Pullmann R
CORPORATE SOURCE: Detska klinika Jeseniovej lekarskej fakulty Univerzity Komenskeho, Martin.
SOURCE: CESKOSLOVENSKA PEDIATRIE, (1992 Sep) 47 (9) 543-6.
Journal code: 0403576. ISSN: 0069-2328.
PUB. COUNTRY: Czechoslovakia
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Slovak
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199211
ENTRY DATE: Entered STN: 19930122
Last Updated on STN: 19930122
Entered Medline: 19921125

ABSTRACT:
In a group of 51 children aged 6-24 months the therapeutic effectiveness of the mucolytic preparation carbocysteine was tested and compared with the effect of Ipeca syrup. The effect was evaluated by means of a point score comprising changes of the clinical picture of the disease and the use of other laboratory examinations. The results of the examination revealed the more favourable effect of carbocysteine, as compared with a mixture of Ipeca syrup in the treatment of acute relapsing bronchitis in infants.

CONTROLLED TERM: Check Tags: Female; Human; Male
***Bronchitis: DT, drug therapy**
***Carbocysteine: TU, therapeutic use**
Child, Preschool
English Abstract
Infant
Recurrence
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine)

L48 ANSWER 7 OF 81 MEDLINE
ACCESSION NUMBER: 93138542 MEDLINE
DOCUMENT NUMBER: 93138542 PubMed ID: 1487227
TITLE: Study on the effect of oral administration of carbocysteine on ventilatory parameters in the SO2 inhalation model of bronchitis in the rat.
AUTHOR: Levrier J; Duval D; Lloyd K G
CORPORATE SOURCE: Synthelabo Recherche, (LERS) Biology Department, Bagneux, France.
SOURCE: FUNDAMENTAL AND CLINICAL PHARMACOLOGY, (1992) 6 (6) 231-6.
Journal code: 8710411. ISSN: 0767-3981.
PUB. COUNTRY: France
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199302
ENTRY DATE: Entered STN: 19930312
Last Updated on STN: 19930312
Entered Medline: 19930224

ABSTRACT:
In order to study the physiological correlates of the beneficial action of carbocisteine (S-carboxy-methyl-cysteine), we have measured the changes occurring in ventilatory parameters in rats made bronchitic by prolonged exposure (2 weeks) to air containing sulfur dioxide (SO2). In animals treated with distilled water (1 ml/100 g/day), statistically significant ($P < 0.05$) changes in respiratory frequency (-20%) and tidal volume (+31%) were found. As a result of these opposing changes, the ventilation/min was stable. Moreover, the compliance was decreased (33%, $P < 0.05$) and the resistance was greatly enhanced (+ 99%, $P < 0.05$). The concomitant administration of carbocisteine (500 mg/kg po/day) with SO2 inhalation significantly ($P < 0.05$) prevented the development of resistance without effecting significant changes in the other parameters except for a slight improvement in ventilation/min. In conclusion, this improved respiratory resistance in the bronchitic carbocisteine-treated animals tallies with a decrease in mucus retention associated with the return to normal of rheological characteristics of the secreted mucus.

CONTROLLED TERM: Check Tags: Animal; Male
Administration, Inhalation
Administration, Oral
Bronchitis: CI, chemically induced
***Bronchitis: DT, drug therapy**
Bronchitis: PP, physiopathology
***Carbocysteine: TU, therapeutic use**
Disease Models, Animal
Lung: DE, drug effects
Random Allocation
Rats
Rats, Sprague-Dawley
*Respiration: DE, drug effects
Respiration: PH, physiology
Respiratory Function Tests
Sulfur Dioxide

CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 7446-09-5 (Sulfur Dioxide)

L48 ANSWER 8 OF 81 MEDLINE
ACCESSION NUMBER: 92210058 MEDLINE
DOCUMENT NUMBER: 92210058 PubMed ID: 1555809
TITLE: Effects of S-carboxymethyl-L-cysteine on pulmonary sialyl transferase activity in vitro, in healthy and in sulphur-dioxide-induced bronchitic rats.

AUTHOR: Berry C N; Lloyd K G; Louisot P
CORPORATE SOURCE: Synthelabo Recherche (LERS), Bagneux, France.
SOURCE: FUNDAMENTAL AND CLINICAL PHARMACOLOGY, (1992) 6 (1) 29-35.
Journal code: 8710411. ISSN: 0767-3981.

PUB. COUNTRY: France
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199205
ENTRY DATE: Entered STN: 19920515
Last Updated on STN: 19980206
Entered Medline: 19920501

ABSTRACT:
S-carboxymethyl-L-cysteine (carbocysteine) improves the visco-elastic properties of bronchial mucus in vivo, possibly as a result of an increase in the relative proportions of sialomucins in bronchial mucus. Carbocysteine was therefore studied in vitro and ex vivo in both normal and bronchitic rats on pulmonary sialyl transferase, responsible for the addition of sialic acid to mucus glycoproteins. Bronchitis was induced in male Sprague-Dawley rats by repeated exposure to sulphur dioxide for two weeks. During this time they received either 500 mg kg-1 day-1 carbocysteine or its vehicle by the oral route. Rats not being exposed to SO2 received the same treatment. The animals

were then killed, and subcellular fractions prepared by differential centrifugation of lung homogenates. Sialyl transferase was assayed using CMP-14C sialic acid as substrate and desialysed fetuin as exogenous acceptor. Enzyme activity was located in both the (Golgi-containing) 10,000 g and 100,000 g pellets with minor activity in the cytosolic supernatants. When tested in vitro between 10(-6) and 10(-3) M, carbocysteine had no effect on sialyl transferase activity in microsomes taken from healthy or bronchitis rats. Repeated administration of carbocysteine was without effect on the sialyl transferase activity in 10,000 g pellets taken from healthy rats. However, in bronchitic rats there was a small but statistically significant (P less than 0.05) increase in enzymic activity in the treated group compared to the animals receiving the vehicle. There was no difference in the activity of the microsomal enzyme compared to vehicle-treated controls in either healthy or bronchitic rats. We conclude that it is possible that an increase in sialyl transferase activity in a Golgi-containing fraction of bronchitic lungs could explain the relative increase in sialomucins in bronchitic subjects.

CONTROLLED TERM: Check Tags: Animal; Male
Bronchitis: CI, chemically induced
***Bronchitis: EN, enzymology**
Carbocysteine: AD, administration & dosage
***Carbocysteine: PD, pharmacology**
*Lung: EN, enzymology
Rats
Rats, Inbred Strains
*Sialyltransferases: AN, analysis
Subcellular Fractions: EN, enzymology
Sulfur Dioxide
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 7446-09-5 (Sulfur Dioxide)
CHEMICAL NAME: EC 2.4.99.- (Sialyltransferases)

L48 ANSWER 9 OF 81 MEDLINE
ACCESSION NUMBER: 91288942 MEDLINE
DOCUMENT NUMBER: 91288942 PubMed ID: 2099568
TITLE: Long-lasting effects on rheology and clearance of bronchial mucus after short-term administration of high doses of carbocysteine-lysine to patients with chronic bronchitis.
AUTHOR: Braga P C; Allegra L; Rampoldi C; Ornaghi A; Beghi G
CORPORATE SOURCE: Center for Respiratory Pharmacology, School of Medicine, University of Milan, Italy.
SOURCE: RESPIRATION, (1990) 57 (6) 353-8.
Journal code: 0137356. ISSN: 0025-7931.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199108
ENTRY DATE: Entered STN: 19910825
Last Updated on STN: 19960129
Entered Medline: 19910805

ABSTRACT:
The rheological behavior and clearance of bronchial mucus samples collected by protected expectoration from 24 out-patients with simple chronic bronchitis were investigated before, at the end of a short period of treatment (4 days) with a single oral dose of 2.7 g (sachet) of carbocysteine-lysine (evening meal), and on the 4th and 8th days after the end of treatment versus placebo. In the group treated with carbocysteine-lysine, there were significant reductions in viscosity (-67, -48, -62%) and increases in mucociliary transport (+41, +31, +34%) at the three times mentioned. The most striking finding was that the improvements were still present 8 days after cessation of treatment. The elasticity parameter was not affected in any statistically significant way

(-10, -24, +65%). These findings suggest the presence of some type of 'post-mucoactive' effect.

CONTROLLED TERM: Check Tags: Female; Human; Male
Adult
Aged
***Bronchitis: ME, metabolism**
***Carbocysteine: PK, pharmacokinetics**
Chronic Disease
Middle Age
Mucociliary Clearance
*Mucus: ME, metabolism
Random Allocation
Rheology
Viscosity

CAS REGISTRY NO.: 2387-59-9 (Carbocysteine)

L48 ANSWER 10 OF 81 MEDLINE
ACCESSION NUMBER: 91315222 MEDLINE
DOCUMENT NUMBER: 91315222 PubMed ID: 3155012
TITLE: [Carbocysteine-sobrerol combination and exacerbation of chronic bronchitis].
Associazione carbocisteina-sobrerolo e riacutizzazioni della bronchite cronica.
AUTHOR: Pasturenzi L; Donnetta A M; Gualtieri G; Luisetti M
SOURCE: ARCHIVIO MONALDI PER LE MALATTIE DEL TORACE, (1988 Nov-Dec) 43 (6) 487-505. Ref: 45
Journal code: 8902999. ISSN: 1120-0391.

PUB. COUNTRY: Italy
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)

LANGUAGE: Italian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199108
ENTRY DATE: Entered STN: 19910913
Last Updated on STN: 19910913
Entered Medline: 19910829

CONTROLLED TERM: Check Tags: Comparative Study; Human
Ambroxol: TU, therapeutic use
Amoxicillin: AD, administration & dosage
Amoxicillin: TU, therapeutic use
***Bronchitis: DT, drug therapy**
***Carbocysteine: AD, administration & dosage**
Cefuroxime: AD, administration & dosage
Cefuroxime: TU, therapeutic use
Chronic Disease
Drug Therapy, Combination
English Abstract
*Expectorants: AD, administration & dosage
*Terpenes: AD, administration & dosage
Time Factors

CAS REGISTRY NO.: 18683-91-5 (Ambroxol); 2387-59-9 (Carbocysteine); 26787-78-0 (Amoxicillin); 498-71-5 (sobrerol); 55268-75-2 (Cefuroxime)

CHEMICAL NAME: 0 (Expectorants); 0 (Terpenes)

L48 ANSWER 11 OF 81 MEDLINE
ACCESSION NUMBER: 89100485 MEDLINE
DOCUMENT NUMBER: 89100485 PubMed ID: 3062806
TITLE: [Comparative evaluation of the effectiveness of lasolvan and mucodine in chronic nonspecific lung diseases].

Sravnitel'naia otsenka effektivnosti lasol'vana i mukodina pri khronicheskikh nespetsificheskikh zabolevaniiakh legkikh.
AUTHOR: Solopov V N; Kolganova N A
SOURCE: SOVETSKAIA MEDITSINA, (1988) (5) 69-72.
Journal code: 0404525. ISSN: 0038-5077.
PUB. COUNTRY: USSR
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Russian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198902
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 20000303
Entered Medline: 19890222
CONTROLLED TERM: Check Tags: Comparative Study; Human
*Ambroxol: TU, therapeutic use
*Asthma: DT, drug therapy
*Bromhexine: AA, analogs & derivatives
***Bronchitis: DT, drug therapy**
***Carbocysteine: TU, therapeutic use**
Chronic Disease
Clinical Trials
*Cysteine: AA, analogs & derivatives
CAS REGISTRY NO.: 18683-91-5 (Ambroxol); 2387-59-9 (Carbocysteine); 3572-43-8 (Bromhexine); 52-90-4 (Cysteine)

L48 ANSWER 12 OF 81 MEDLINE
ACCESSION NUMBER: 86062057 MEDLINE
DOCUMENT NUMBER: 86062057 PubMed ID: 4067726
TITLE: Effects of carbocysteine on experimental chronic sinusitis caused by long-term exposure to SO2.
AUTHOR: Ohashi Y; Nakai Y; Koshimo H; Ikeoka H; Maruoka K; Takagi K
SOURCE: NIPPON JIBIINKOKA GAKKAI KAIHO [JOURNAL OF THE OTO-RHINO-LARYNGOLOGICAL SOCIETY OF JAPAN], (1985 Aug) 88 (8) 1056-60.
Journal code: 7505728. ISSN: 0030-6622.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Japanese
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198601
ENTRY DATE: Entered STN: 19900321
Last Updated on STN: 20000303
Entered Medline: 19860114
CONTROLLED TERM: Check Tags: Animal
***Carbocysteine: TU, therapeutic use**
Chronic Disease
*Cysteine: AA, analogs & derivatives
English Abstract
*Maxillary Sinus: UL, ultrastructure
Microscopy, Electron
Rabbits
Sinusitis: CI, chemically induced
***Sinusitis: PA, pathology**
*Sulfur Dioxide: TO, toxicity
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine); 7446-09-5 (Sulfur Dioxide)

L48 ANSWER 13 OF 81 MEDLINE
ACCESSION NUMBER: 86077525 MEDLINE
DOCUMENT NUMBER: 86077525 PubMed ID: 3907681
TITLE: Long-term oral carbocisteine therapy in patients with

chronic bronchitis. A double blind trial with placebo control.
AUTHOR: Grillage M; Barnard-Jones K
SOURCE: BRITISH JOURNAL OF CLINICAL PRACTICE, (1985 Oct) 39 (10) 395-8.
Journal code: 0372546. ISSN: 0007-0947.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198602
ENTRY DATE: Entered STN: 19900321
Last Updated on STN: 20000303
Entered Medline: 19860212
CONTROLLED TERM: Check Tags: Human
Adult
***Bronchitis: DT, drug therapy**
Bronchitis: PP, physiopathology
Carbocysteine: AE, adverse effects
***Carbocysteine: TU, therapeutic use**
Clinical Trials
*Cysteine: AA, analogs & derivatives
Double-Blind Method
Peak Expiratory Flow Rate
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine)

L48 ANSWER 14 OF 81 MEDLINE
ACCESSION NUMBER: 85305322 MEDLINE
DOCUMENT NUMBER: 85305322 PubMed ID: 4037622
TITLE: [Changes in IgA levels in nasal mucus after upper respiratory tract diseases in infants treated with carbocysteine].
Modifications du taux des IgA du mucus nasal au decours des affections des voies aeriennes superieures du nourrisson traitees par la carbocisteine.
AUTHOR: Henocq A; Moreau C; Mallet E; Sauger F; de Menibus C H
SOURCE: ANNALES D OTO-LARYNGOLOGIE ET DE CHIRURGIE CERVICO-FACIALE, (1985) 102 (5) 373-5.
Journal code: 9431026. ISSN: 0003-438X.
PUB. COUNTRY: France
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: French
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198510
ENTRY DATE: Entered STN: 19900320
Last Updated on STN: 20000303
Entered Medline: 19851007

ABSTRACT:
The authors have studied IgA level in nasal mucus of children, either not treated-controls, or treated with carbocysteine. All had common rhinobronchial diseases. They have noted a significant increase in IgA level in the treated group, from the 7th day.

CONTROLLED TERM: Check Tags: Human
***Carbocysteine: TU, therapeutic use**
Child, Preschool
*Cysteine: AA, analogs & derivatives
English Abstract
*Immunoglobulin A, Secretory: AN, analysis
Infant
*Nasal Mucosa: IM, immunology

***Respiratory Tract Infections: DT, drug therapy**
Respiratory Tract Infections: IM, immunology
Time Factors
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine)
CHEMICAL NAME: 0 (Immunoglobulin A, Secretory)

L48 ANSWER 15 OF 81 MEDLINE
ACCESSION NUMBER: 86058159 MEDLINE
DOCUMENT NUMBER: 86058159 PubMed ID: 4066083
TITLE: Comparison between penetration of amoxicillin combined with carbocysteine and amoxicillin alone in pathological bronchial secretions and pulmonary tissue.
AUTHOR: Braga P C; Scaglione F; Scarpazza G; Fraticelli G; Roviaro G; Varoli F; Mariani C; Falchi M; Fraschini F
SOURCE: INTERNATIONAL JOURNAL OF CLINICAL PHARMACOLOGY RESEARCH, (1985) 5 (5) 331-40.
Journal code: 8110183. ISSN: 0251-1649.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198601
ENTRY DATE: Entered STN: 19900321
Last Updated on STN: 20000303
Entered Medline: 19860108

ABSTRACT:
Patients with chronic bronchitis were treated orally with either amoxicillin (500 mg) alone or in combination with carbocysteine (150 mg), thrice daily for five days, in order to assess whether the combination allows higher antibiotic levels to be obtained in bronchial mucus than those obtained from amoxicillin alone. Serum and mucus levels were determined for each patient at first and fifth day of the two drug regimens. The levels of amoxicillin in the lung tissue collected in patients undergoing pulmonary surgery were also determined after a single oral dose of amoxicillin (1 g) or of amoxicillin (1 g) plus carbocysteine (300 mg). In the bronchial secretions, at the same plasma concentrations, amoxicillin levels were statistically higher after administration of combined substances. These findings indicate the presence of a pharmacokinetic synergism between these compounds, which allows amoxicillin to penetrate more easily through the hemato-bronchial barrier. The association of amoxicillin and carbocysteine, determining an increase of the quantitative levels of antibiotic in the bronchial secretion (also if it is purulent), performs a sterilizing action in a short time with significant therapeutic advantages.

CONTROLLED TERM: Check Tags: Female; Human; Male
Aged
Amoxicillin: AD, administration & dosage
*Amoxicillin: TU, therapeutic use
Bronchi: BS, blood supply
*Bronchi: SE, secretion
***Bronchitis: DT, drug therapy**
Bronchitis: MI, microbiology
Bronchitis: PA, pathology
Carbocysteine: AD, administration & dosage
***Carbocysteine: TU, therapeutic use**
*Cysteine: AA, analogs & derivatives
Drug Interactions
Drug Therapy, Combination
*Lung: PA, pathology
Middle Age
Mucus: SE, secretion
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 26787-78-0 (Amoxicillin); 52-90-4 (Cysteine)

L48 ANSWER 16 OF 81 MEDLINE
ACCESSION NUMBER: 86268238 MEDLINE
DOCUMENT NUMBER: 86268238 PubMed ID: 3836611
TITLE: [Effect of S-carboxymethylcysteine on the concentration of antibiotics in bronchial secretions and its therapeutic effects].
Studio dell'attivita della S-carbossimetilcisteina sulle concentrazioni di antibiotici nel secreto bronchiale ed effetti terapeutici.
AUTHOR: Pirali F; Ravizzola G; Santus G; Inzoli M R; Turano A
SOURCE: ARCHIVIO MONALDI PER LA TISIOLOGIA E LE MALATTIE DELL APPARATO RESPIRATORIO, (1985 Jan-Apr) 40 (1-2) 3-18.
Journal code: 1263173. ISSN: 0004-0185.
PUB. COUNTRY: Italy
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LANGUAGE: Italian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198608
ENTRY DATE: Entered STN: 19900321
Last Updated on STN: 20000303
Entered Medline: 19860821
CONTROLLED TERM: Check Tags: Female; Human; Male
Aged
Antibiotics: ME, metabolism
Bronchopneumonia: DT, drug therapy
***Bronchopneumonia: ME, metabolism**
***Carbocysteine: PD, pharmacology**
*Cysteine: AA, analogs & derivatives
Drug Therapy, Combination
English Abstract
Middle Age
Sputum: ME, metabolism
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine)
CHEMICAL NAME: 0 (Antibiotics)

L48 ANSWER 17 OF 81 MEDLINE
ACCESSION NUMBER: 81272536 MEDLINE
DOCUMENT NUMBER: 81272536 PubMed ID: 7022385
TITLE: [Mucodine in the treatment of chronic bronchitis].
Zastosowanie mukodyny w leczeniu przewleklego zapalenia oskrzeli.
AUTHOR: Wierzbicka M; Wojcik R A
SOURCE: PNEUMONOLOGIA POLSKA, (1981) 49 (5) 369-76.
Journal code: 7605692. ISSN: 0376-4761.
PUB. COUNTRY: Poland
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Polish
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198110
ENTRY DATE: Entered STN: 19900316
Last Updated on STN: 20000303
Entered Medline: 19811029
CONTROLLED TERM: Check Tags: Female; Human; Male
Adolescence
Adult
Aged
***Bronchitis: DT, drug therapy**
***Carbocysteine: TU, therapeutic use**
Chronic Disease

Clinical Trials
*Cysteine: AA, analogs & derivatives
Double-Blind Method
English Abstract
Middle Age
Placebos
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine)
CHEMICAL NAME: 0 (Placebos)

L48 ANSWER 18 OF 81 MEDLINE
ACCESSION NUMBER: 81237546 MEDLINE
DOCUMENT NUMBER: 81237546 PubMed ID: 7250579
TITLE: [Absorption, elimination and therapeutic effectiveness of a new antibiotic and mucolytic combination for oral administration].
Studio sull'assorbimento, sull'eliminazione e sulla efficacia clinica di una nuova associazione antibiotico-mucolitica per via orale.
AUTHOR: Silvia G; Giambrone F; Battaglia E; Romano M
SOURCE: GIORNALE DI CLINICA MEDICA, (1981 Mar) 62 (3) 209-27.
Journal code: 0413411. ISSN: 0017-0275.
PUB. COUNTRY: Italy
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Italian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198109
ENTRY DATE: Entered STN: 19900316
Last Updated on STN: 20000303
Entered Medline: 19810922
CONTROLLED TERM: Check Tags: Female; Human; Male
Adult
Aged
*Bacterial Infections: DT, drug therapy
Bronchitis: DT, drug therapy
Bronchopneumonia: DT, drug therapy
Carbocysteine: AD, administration & dosage
Carbocysteine: ME, metabolism
***Carbocysteine: TU, therapeutic use**
Cefadroxil
Cephalexin: AD, administration & dosage
*Cephalexin: AA, analogs & derivatives
Cephalexin: ME, metabolism
Cephalexin: TU, therapeutic use
*Cysteine: AA, analogs & derivatives
Drug Therapy, Combination
English Abstract
Middle Age
***Respiratory Tract Infections: DT, drug therapy**
CAS REGISTRY NO.: 15686-71-2 (Cephalexin); 2387-59-9 (Carbocysteine); 50370-12-2 (Cefadroxil); 52-90-4 (Cysteine)

L48 ANSWER 19 OF 81 MEDLINE
ACCESSION NUMBER: 81177684 MEDLINE
DOCUMENT NUMBER: 81177684 PubMed ID: 7013137
TITLE: [Optimal use of expectorants (current trends)].
Optimal'noe primenenie otkharkivaiushchikh preparatov (sovremennye tendentsii).
AUTHOR: Mirrakhimov M M; Brimkulov N N; Rafibekova Zh S
SOURCE: TERAPEVTICHESKII ARKHIV, (1981) 53 (1) 110-7. Ref: 114
Journal code: 2984818R. ISSN: 0040-3660.
PUB. COUNTRY: USSR
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)

LANGUAGE: Russian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198106
ENTRY DATE: Entered STN: 19900316
Last Updated on STN: 20000303
Entered Medline: 19810613

CONTROLLED TERM: Check Tags: Human; In Vitro
Biological Transport
*Bromhexine: TU, therapeutic use
Bronchi: SE, secretion
***Bronchitis: DT, drug therapy**
***Carbocysteine: TU, therapeutic use**
Chronic Disease
*Cysteine: AA, analogs & derivatives
Elasticity
Sputum: DE, drug effects
Sputum: ME, metabolism
Viscosity

CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 3572-43-8 (Bromhexine); 52-90-4 (Cysteine)

L48 ANSWER 20 OF 81 MEDLINE
ACCESSION NUMBER: 79221195 MEDLINE
DOCUMENT NUMBER: 79221195 PubMed ID: 460097
TITLE: [Changes in sputum in catarrhal bronchitis in children after treatment with S-carboxymethylcysteine (viscosimetric studies)].
Modificazioni dell'escreato nella bronchite catarrale in eta pediatrica dopo trattamento con S-carbossimetilcisteina. (Indagine viscosimetrica).

AUTHOR: Castello D; Costa G; De Candussio G
SOURCE: MINERVA PEDIATRICA, (1979 Mar 15) 31 (5) 371-80.
Journal code: 0400740. ISSN: 0026-4946.

PUB. COUNTRY: Italy
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Italian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197909
ENTRY DATE: Entered STN: 19900315
Last Updated on STN: 19900315
Entered Medline: 19790925

CONTROLLED TERM: Check Tags: Female; Human; Male
Administration, Oral
***Bronchitis: DT, drug therapy**
Carbocysteine: AD, administration & dosage
***Carbocysteine: TU, therapeutic use**
Child
Child, Preschool
*Cysteine: AA, analogs & derivatives
Drug Evaluation
English Abstract
Infant
Viscosity

CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine)

L48 ANSWER 21 OF 81 MEDLINE
ACCESSION NUMBER: 79106561 MEDLINE
DOCUMENT NUMBER: 79106561 PubMed ID: 367726
TITLE: Effects of S-carboxymethylcysteine on tracheal mucus velocity.

AUTHOR: Goodman R M; Yergin B M; Sackner M A
SOURCE: CHEST, (1978 Dec) 74 (6) 615-8.
Journal code: 0231335. ISSN: 0012-3692.

PUB. COUNTRY: United States
DOCUMENT TYPE: (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 197904
ENTRY DATE: Entered STN: 19900315
Last Updated on STN: 19980206
Entered Medline: 19790425

ABSTRACT:
The effects of S-carboxymethylcysteine on tracheal mucus velocity were assessed in a double blind crossover study between 2 grams S-carboxymethylcysteine and placebo. Subjects included six healthy non-smokers, eight smokers with small airway disease and chronic simple bronchitis, and eight subjects with chronic obstructive bronchitis. Tracheal mucus velocity was measured prior to and two and three hours after each subject had ingested S-carboxymethylcysteine or placebo. No significant change in tracheal mucus velocity occurred after placebo or S-carboxymethylcysteine in any of the groups, indicating that the drug has no acute effect on mucus transport.

CONTROLLED TERM: Check Tags: Female; Human; Male; Support, U.S. Gov't, P.H.S.
Adult
Bronchitis: DT, drug therapy
***Carbocysteine: PD, pharmacology**
Carbocysteine: TU, therapeutic use
Chronic Disease
Clinical Trials
*Cysteine: AA, analogs & derivatives
Lung Diseases, Obstructive: DT, drug therapy
Middle Age
*Mucus: DE, drug effects
Smoking
*Trachea: DE, drug effects
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine)

L48 ANSWER 22 OF 81 MEDLINE
ACCESSION NUMBER: 79085799 MEDLINE
DOCUMENT NUMBER: 79085799 PubMed ID: 365537
TITLE: Effect of the mucoregulator S-carboxy-methyl-cysteine in patients with chronic bronchitis.
AUTHOR: Puchelle E; Aug F; Polu J M
SOURCE: EUROPEAN JOURNAL OF CLINICAL PHARMACOLOGY, (1978 Nov 27) 14 (3) 177-84.
Journal code: 1256165. ISSN: 0031-6970.
PUB. COUNTRY: GERMANY, WEST: Germany, Federal Republic of
DOCUMENT TYPE: (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197903
ENTRY DATE: Entered STN: 19900315
Last Updated on STN: 19900315
Entered Medline: 19790313

ABSTRACT:
Twenty patients with stable chronic bronchitis entered a double-blind study in which changes in clinical and respiratory function and biochemical and rheological variations were examined after treatment with the mucoregulator S-carboxy-methyl-cysteine (S.C.M.C.). After one week of single-blind placebo, a two week double-blind study was initiated with placebo or oral S.C.M.C. 3 g/24h. After two weeks, a significant clinical improvement was observed in

patients treated with S.C.M.C. During treatment, there was no change in respiratory function, although a drop in FEV1/VC was noted in the placebo group. A significant increase in the viscosity of the expectorations was observed after treatment with S.C.M.C. for two weeks. The levels of secretory IgA and of serum albumin in the expectorations remained stable, whereas in the placebo group, there was a slight but significant increase in serum albumin. In this group of non-infected chronic bronchitic patients, S.C.M.C. appeared to normalize the secretory function of the bronchial mucosa by preventing inflammation and enhancing the viscoelastic properties of bronchial secretions.

CONTROLLED TERM: Check Tags: Human; Male
Aged
***Bronchitis: DT, drug therapy**
Bronchitis: MI, microbiology
Bronchitis: PP, physiopathology
Carbocysteine: AE, adverse effects
***Carbocysteine: TU, therapeutic use**
Chronic Disease
Clinical Trials
*Cysteine: AA, analogs & derivatives
Double-Blind Method
Middle Age
Placebos
Respiratory Function Tests
Sputum: AN, analysis
Sputum: DE, drug effects
Sputum: MI, microbiology

CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine)
CHEMICAL NAME: 0 (Placebos)

L48 ANSWER 23 OF 81 MEDLINE
ACCESSION NUMBER: 77107156 MEDLINE
DOCUMENT NUMBER: 77107156 PubMed ID: 797159
TITLE: [The treatment of bronchitic syndrome using Transbronchin in the practice].
Die Behandlung des bronchitischen Syndroms mit Transbronchin in der Praxis.

AUTHOR: Plietz J
SOURCE: ZFA. ZEITSCHRIFT FUR ALLGEMEINMEDIZIN, (1976 Dec 20) 52 (35) 1832-4.
Journal code: 7613263. ISSN: 0341-9835.

PUB. COUNTRY: GERMANY, WEST: Germany, Federal Republic of
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: German
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197703
ENTRY DATE: Entered STN: 19900313
Last Updated on STN: 19900313
Entered Medline: 19770321

CONTROLLED TERM: Check Tags: Female; Human; Male
Adolescence
Adult
Aged
***Bronchitis: DT, drug therapy**
***Carbocysteine: TU, therapeutic use**
Clinical Trials
*Cysteine: AA, analogs & derivatives
Middle Age
Syndrome

CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine)

L48 ANSWER 24 OF 81 MEDLINE

ACCESSION NUMBER: 77025332 MEDLINE
DOCUMENT NUMBER: 77025332 PubMed ID: 789027
TITLE: S-carboxymethylcysteine in the fluidification of sputum and treatment of chronic airway obstruction.
AUTHOR: Edwards G F; Steel A E; Scott J K; Jordan J W
SOURCE: CHEST, (1976 Oct) 70 (4) 506-13.
Journal code: 0231335. ISSN: 0012-3692.
PUB. COUNTRY: United States
DOCUMENT TYPE: (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 197612
ENTRY DATE: Entered STN: 19900313
Last Updated on STN: 19980206
Entered Medline: 19761223

ABSTRACT:
The clinical results and changes in sputum found in both a short-term inpatient trial and a subsequent long-term outpatient investigation (three-month double-blind controlled study) of 82 patients with chronic bronchitis treated with a new mucolytic agent, S-carboxymethylcysteine (Mucodyne), are reported. Fluidification of sputum with reduction in certain measurements of the viscosity of morning sputum aliquots, associated with improvement in the ability to cough up bronchial secretions, significant increase in sputum volume output, and improvement in ventilation (as estimated by the forced expiratory volume in one second), were observed in both trials as dose-related responses, with an increase in the ease of expectoration and a reduction in cough frequency and dyspnea. Therapy with S-carboxymethylcysteine was well tolerated, and there were no serious adverse effects, either immediate or delayed. We suggest that the effect of the drug in fluidifying sputum may be due to a mucoregulatory mechanism which reverses the sputum macromolecular disturbances seen in chronic bronchitis.

CONTROLLED TERM: Check Tags: Female; Human; Male
Administration, Oral
Adult
***Bronchitis: DT, drug therapy**
Carbocysteine: AD, administration & dosage
Carbocysteine: PD, pharmacology
***Carbocysteine: TU, therapeutic use**
Chronic Disease
Clinical Trials
*Cysteine: AA, analogs & derivatives
Forced Expiratory Volume
Humidity
Middle Age
Respiratory Therapy
*Sputum: DE, drug effects
Viscosity
Vital Capacity
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine)

L48 ANSWER 25 OF 81 MEDLINE
ACCESSION NUMBER: 75175470 MEDLINE
DOCUMENT NUMBER: 75175470 PubMed ID: 1134660
TITLE: [Studies of the clinical effectiveness of the mucolytic drug, S-carboxymethylcysteine, in the therapy of acute and chronic bronchitis].
Indagine sull'efficacia clinica del mucolitico S-carbossimetilcisteine nella terapia delle bronchiti acute e croniche.
AUTHOR: Magliulo E; Bonizzoni D; Cattaneo E; Scevola D; Concia E

SOURCE: MINERVA MEDICA, (1975 Apr 4) 66 (25) 1187-97.
Journal code: 0400732. ISSN: 0026-4806.

PUB. COUNTRY: Italy
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Italian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197508
ENTRY DATE: Entered STN: 19900310
Last Updated on STN: 19900310
Entered Medline: 19750820

CONTROLLED TERM: Check Tags: Human; Male
Acute Disease
Adult
Aged
***Bronchitis: DT, drug therapy**
***Carbocysteine: TU, therapeutic use**
Chronic Disease
*Cysteine: AA, analogs & derivatives
*Expectorants: TU, therapeutic use
Middle Age

CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine)
CHEMICAL NAME: 0 (Expectorants)

L48 ANSWER 26 OF 81 MEDLINE
ACCESSION NUMBER: 76154723 MEDLINE
DOCUMENT NUMBER: 76154723 PubMed ID: 769242
TITLE: No demonstrable effect of S-carboxymethylcysteine on clearance of secretions from the human lung.

AUTHOR: Thomson M L; Pavia D; Jones C J; McQuiston T A
SOURCE: THORAX, (1975 Dec) 30 (6) 669-73.
Journal code: 0417353. ISSN: 0040-6376.

PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: (CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197606
ENTRY DATE: Entered STN: 19900313
Last Updated on STN: 19980206
Entered Medline: 19760602

ABSTRACT:
The mucolytic efficacy of S-carboxymethylcysteine has been assessed in a double-blind crossover trial in 16 patients with chronic obstructive bronchitis. No significant difference was found between drug and placebo after four or seven days' treatment in the rate of clearance of secretions from the lung. This was measured by external counting of previously inhaled polystyrene tracer particles tagged with technetium-99m (99mTc). Lateral scans across the right chest after inhaling the aerosol showed equal penetration of particles towards the periphery of the lung in drug and placebo runs; this indicated that the airways had not been cleared of mucus by the drug. There was no significant difference between drug and placebo runs in the number of coughs or the weight and radioactive content of sputum voided or raised at the end of the run by chest percussion and postural drainage. Ventilatory capacity was not significantly changed nor was there any subjective improvement in the patients as a result of taking the drug.

CONTROLLED TERM: Check Tags: Human; Male
Aged
***Bronchitis: DT, drug therapy**
Bronchitis: PP, physiopathology
Carbocysteine: AD, administration & dosage
***Carbocysteine: TU, therapeutic use**

Clinical Trials
*Cysteine: AA, analogs & derivatives
Forced Expiratory Volume
Lung: AN, analysis
*Lung: SE, secretion
Middle Age
*Mucus: DE, drug effects
Sputum: AN, analysis
Vital Capacity
CAS REGISTRY NO.: 2387-59-9 (Carbocysteine); 52-90-4 (Cysteine)

=> fil reg; s 2387-59-9
FILE 'REGISTRY' ENTERED AT 09:23:07 ON 09 JUL 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

STRUCTURE FILE UPDATES: 8 JUL 2002 HIGHEST RN 437701-77-4
DICTIONARY FILE UPDATES: 8 JUL 2002 HIGHEST RN 437701-77-4

TSCA INFORMATION NOW CURRENT THROUGH January 7, 2002

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

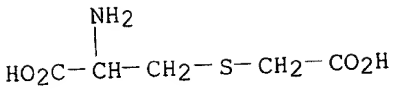
Calculated physical property data is now available. See HELP PROPERTIES
for more information. See STNote 27, Searching Properties in the CAS
Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

L49 2 2387-59-9
(2387-59-9/RN)

=> d ide 1-2

L49 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2002 ACS
RN 25390-17-4 REGISTRY
CN Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Alanine, 3-[(carboxymethyl)thio]-, DL- (8CI)
CN DL-Cysteine, S-(carboxymethyl)-
OTHER NAMES:
CN 5-Amino-3-thiadihexanoic acid
CN DL-3-(Carboxymethylthio)alanine
CN S-(Carboxymethyl)-(RS)-cysteine
CN S-(Carboxymethyl)-DL-cysteine
CN S-(Carboxymethyl)cysteine
FS 3D CONCORD
DR **2387-59-9**
MF C5 H9 N O4 S
CI COM
LC STN Files: ANABSTR, BEILSTEIN*, BIOSIS, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, IPA, MEDLINE, NIOSHTIC, RTECS*, TOXCENTER, USAN, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)

Structures for all Medline references

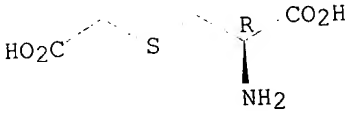


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

20 REFERENCES IN FILE CA (1967 TO DATE)
20 REFERENCES IN FILE CAPLUS (1967 TO DATE)

L49 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2002 ACS
RN 638-23-3 REGISTRY
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Alanine, 3-[(carboxymethyl)thio]-, L- (6CI, 8CI)
OTHER NAMES:
CN (L)-2-Amino-3-(carboxymethylthio)propionic acid
CN (R)-S-(Carboxymethyl)cysteine
CN 3-[(Carboxymethyl)thio]-L-alanine
CN Bronchokod
CN Carbocisteine
CN Carbocysteine
CN DF 1794Y
CN L-(Carboxymethyl)cysteine
CN LJ 206
CN Mùciclar
CN Mucodyne
CN Mucopront
CN Rhinathiol
CN Rhinatiol
CN Rinatiol
CN S-(Carboxymethyl)-(R)-cysteine
CN S-(Carboxymethyl)-L-cysteine
CN S-Carboxylmethyl-L-cysteine
CN Thiodril
AR **2387-59-9**
FS STEREOSEARCH
DR 11139-64-3
MF C5 H9 N O4 S
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DRUGU, EMBASE, HODOC*, IFICDB, IFIPAT, IFIUDB, MRCK*, NIOSHTIC, PHAR, PHARMASEARCH, PROMT, RTECS*, TOXCENTER, ULIDAT, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

523 REFERENCES IN FILE CA (1967 TO DATE)
23 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

Searched by Barb O'Bryen, STIC 308-4291

523 REFERENCES IN FILE CAPLUS (1967 TO DATE)
13 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> fil medl hcapl
FILE 'MEDLINE' ENTERED AT 09:23:41 ON 09 JUL 2002

FILE 'HCAPLUS' ENTERED AT 09:23:41 ON 09 JUL 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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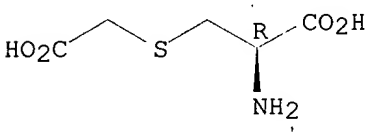
=> d ibib abs hitstr l48 27-81; fil hom

L48 ANSWER 27 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:723411 HCAPLUS
DOCUMENT NUMBER: 128:43683
TITLE: Effects of fudosteine, a new mucoactive drug, on the increase in mucus secretion produced by secretagogues in human pulmonary mucoepidermoid carcinoma cells
AUTHOR(S): Kusano, K.; Nishiwaki, S.; Naito, H.; Takahashi, Y.; Tachibana, K.; Yokoyama, T.; Kai, H.; Miyata, T.
CORPORATE SOURCE: Central Research Laboratories, SS Pharmaceutical Co., Ltd, Narita, 286, Japan
SOURCE: Pharmaceutical Sciences (1997), 3(8), 403-406
CODEN: PHSCFB; ISSN: 1356-6881
PUBLISHER: Royal Pharmaceutical Society of Great Britain
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The purpose of this study was to clarify the effects of fudosteine ((-)-(R)-2-amino-3-(3-hydroxypropylthio)propionic acid), a new mucoactive drug, on mucus secretion in the human pulmonary mucoepidermoid carcinoma cell line NCI-H292. NCI-H292 cells produced hyaluronidase-resistant high-mol.-wt. glycoconjugates (HMWG), which were eluted in the void vol. on Superose 6HR column chromatog. ATP, bradykinin, and methacholine increased the basal secretion of [14C]glucosamine-labeled HMWG in NCI-H292 cells. Fudosteine significantly suppressed the HMWG secretion induced by ATP or bradykinin, but not that induced by methacholine. Other mucoactive drugs, such as ethylcysteine, ambroxol and carboxymethylcysteine, did not affect the increase in HMWG. These results indicate that fudosteine suppresses the mucin secretion induced by ATP and bradykinin in airway mucus-producing cancer cells.
IT **638-23-3**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(fudosteine effect on increase in mucus secretion produced by secretagogues in human pulmonary mucoepidermoid carcinoma cells, and comparison with other mucoactive drugs)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 28 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:12626 HCAPLUS
DOCUMENT NUMBER: 126:50995

TITLE: Pharmaceutical composition containing acetylcysteine, carbocysteine or erdosteine in combination with a beta 2 agonist and an **expectorant** for the treatment of respiratory tract disorders

INVENTOR(S): Holtshousen, Peter David
PATENT ASSIGNEE(S): Adcock Ingram Limited, S. Afr.; Ashworth, Stuart David; Holtshousen, Peter David
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2

DOCUMENT TYPE: **Patent**
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

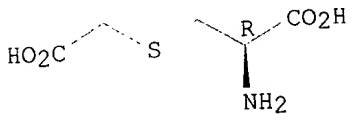
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9635452	A1	19961114	WO 1996-GB1107	19960509
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
ZA 9603590	A	19961119	ZA 1996-3590	19960507
AU 9656556	A1	19961129	AU 1996-56556	19960509
PRIORITY APPLN. INFO.:			ZA 1995-3778	19950510
			WO 1996-GB1107	19960509

AB A pharmaceutical compn. useful in the treatment of respiratory tract disorders comprises as active ingredients; (a) acetylcysteine, carbocysteine, erdosteine or a pharmaceutically acceptable salt of any of these; and (b) a .beta.2-agonist, e.g. salbutamol, terbutaline; and (c) an **expectorant**, e.g. guaiphensin, sodium citrate, ammonium chloride.

IT **638-23-3**, Carbocysteine
RL: **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(pharmaceutical contg. a cysteine deriv., .beta.2-agonist and an **expectorant** for treatment of respiratory tract disorders)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 29 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:154918 HCAPLUS
DOCUMENT NUMBER: 126:162255
TITLE: **Expectorant** compositions
INVENTOR(S): Hibi, Yoshiaki; Hirata, Takeo; Watanabe, Masazumi
PATENT ASSIGNEE(S): Takeda Chemical Industries Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF

DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

JP 08337532 A2 19961224 JP 1995-147367 19950614

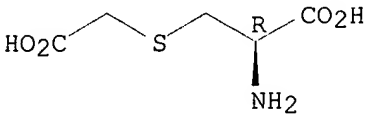
AB **Expectorant** compns. comprise mucus secretion-promoting herbal medicine and mucus viscosity adjusters/mucosa lubricants for the respiratory tract. An oral **expectorant** compn. comprises L-ethylcysteine-HCl 250, senega exts. 450, and aster exts. 450 mg with addn. of excipients.

IT **638-23-3**, Carbocysteine
RL: **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(**expectorant** compns.)

RN 638-23-3 HCAPLUS

CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 30 OF 81 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1996:309926 HCAPLUS

DOCUMENT NUMBER: 125:1027

TITLE: N-Acetyl-L-cysteine and its derivatives activate a Cl- conductance in epithelial cells

AUTHOR(S): Koettgen, M.; Busch, A. E.; Hug, M. J.; Greger, R.; Kunzelmann, K.

CORPORATE SOURCE: Physiol. Inst. Albert Ludwigs, Univ. Freiburg, Freiburg, D-79104, Germany

SOURCE: Pfluegers Arch. (1996), 431(4), 549-555
CODEN: PFLABK; ISSN: 0031-6768

DOCUMENT TYPE: Journal

LANGUAGE: English

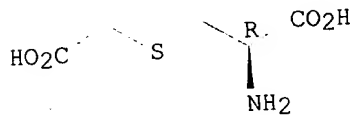
AB N-Acetyl-L-cysteine (NAC) is a widely used mucolytic drug in patients with a variety of respiratory disorders including cystic fibrosis (CF). The beneficial effects of NAC are empirical and the exact mechanism of action in the airways remains obscure. In the present study the authors examd. the effects on whole-cell (wc) conductance (Gm) and voltage (Vm) of NAC and the congeners S-carboxymethyl-L-cysteine (CMC) and S-carbamyl-L-cysteine (CAC) and L-cysteine in normal and CF airway epithelial cells. L-Cysteine (1 mM) had no detectable effect. The increase of Gm (.DELTA.Gm) by the other compds. was concn. dependent and was (all substances at 1 mM) 3.8 (NAC), 4.2 (CMC) and 3.8 (CAC), resp. The changes in Gm were paralleled by an increased depolarization (.DELTA.Vm) when extracellular Cl- concn. was reduced to 34 mM: under control conditions = 4.1 vs. 10.2 mV in the presence of NAC, CMC, CAC. In the presence of NAC, CMC and CAC, the redn. in Cl- concn. was paralleled by a redn. of Gm by 2.1, indicating that all substances acted by increasing the Cl- conductance. Anal. of intracellular pH did not reveal any changes by any of the compds. (1 mM). A Cl- conductance was also activated in HT29 colonic carcinoma and CF tracheal epithelial (CFDE) cells but not in CFPAC-1 cells, which do not express detectable levels of .DELTA.F508-CFTR, suggesting that the presence of CFTR may be a prerequisite for the redn. of Cl- currents. Next the authors examd. the ion currents in Xenopus oocytes microinjected with CFTR-cRNA. Water-injected oocytes did not respond to activation by forskolin and 3-isobutyl-1-methylxanthine (IBMX) (.DELTA.Gm = 0.08 .mu.S) and no current was activated when these oocytes were exposed to NAC or CMC. In contrast, in CFTR-cRNA-injected oocytes Gm was enhanced when intracellular cAMP (cAMP) was increased by forskolin and IBMX (Gm = 4.5 .mu.S). Gm was significantly increased by 0.74 .mu.S and 0.46 .mu.S when oocytes were exposed to NAC and CMC, resp. (both 1 mM). In conclusion, NAC and its

congeners activate Cl- conductances in normal and CF airway epithelial cells and hence induce electrolyte secretion which may be beneficial in CF patients. CFTR appears to be required for this response in an as yet unknown fashion.

IT **638-23-3**, S-Carboxymethyl-L-cysteine
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(N-Acetyl-L-cysteine and derivs. activate a Cl- conductance in normal and cystic fibrosis human airway epithelial cells in relation to CFTR)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 31 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:625164 HCAPLUS
DOCUMENT NUMBER: 125:257189
TITLE: Pharmaceutical composition containing a **mucolytic** agent and a bronchodilator for the treatment of respiratory tract disorders
INVENTOR(S): Treadwell, Cecil
PATENT ASSIGNEE(S): Adcock Ingram Ltd., S. Afr.
SOURCE: S. African, 9 pp.
CODEN: SFXXAB
DOCUMENT TYPE: **Patent**
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

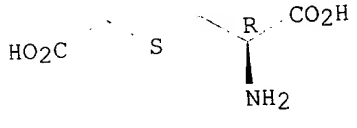
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ZA 9400155	A	19950711	ZA 1994-155	19940111
PRIORITY APPLN. INFO.:			ZA 1992-8567	19921106

AB A pharmaceutical compn. in unit dosage form comprises (a) a therapeutic dose of acetylcysteine (I) or carbocysteine or a pharmaceutically acceptable salt thereof; (b) a therapeutic dose of terbutaline (II) or a pharmaceutically acceptable salt thereof; and (c) one or more pharmaceutically acceptable excipients. A capsule contained I 100-2000, II sulfate 1-5, diluent 5-200, glidants 0-15, and disintegrants 0-20 mg.

IT **638-23-3**, Carbocysteine
RL: **BAC (Biological activity or effector, except adverse)**; BIOL (Biological study); USES (Uses)
THU (Therapeutic use); (pharmaceutical compn. contg. **mucolytic** agent and bronchodilator for treatment of respiratory tract disorders)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

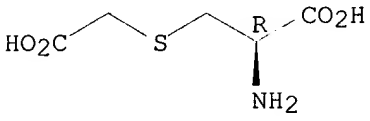


L48 ANSWER 32 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:35119 HCAPLUS
DOCUMENT NUMBER: 124:176944
TITLE: Preparation of S-(carboxymethyl)cysteine
INVENTOR(S): Sato, Tadashi
PATENT ASSIGNEE(S): Kojin Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 2 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07267922	A2	19951017	JP 1994-82702	19940330

OTHER SOURCE(S): CASREACT 124:176944
AB The compd. (I), useful as an **expectorant** and an intermediates for biotins, is prepd. by treatment of L-cystine with ClCH2CO2H (II) in the presence of NaBH4. NaBH4 was gradually added to a mixt. of H2O, L-cystine, and II, which was previously adjusted to pH 8, under cooling and the reaction mixt. was further stirred at room temp. for 2 h to give 91% I.
IT **638-23-3P**, S-Carboxymethyl-L-cysteine
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of (carboxaymethyl)cysteine from cystine and ClCH2CO2H in presence of NaBH.beta.)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



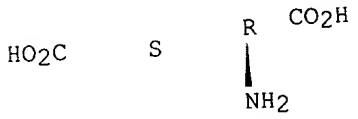
L48 ANSWER 33 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:997702 HCAPLUS
DOCUMENT NUMBER: 124:37727
TITLE: Compound benproperine pharmaceutical compositions for respiratory infections
INVENTOR(S): Ye, Rongke
PATENT ASSIGNEE(S): Baiyunshan Pharmaceutics Stock-Sharing Co., Ltd., Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 4 pp.
CODEN: CNXXEV
DOCUMENT TYPE: **Patent**
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1104500	A	19950705	CN 1993-106648	19930610

AB Antiinflammatory, antitussive, and **expectorant** compns. for patients with respiratory infections comprise benproperine, carboxymethylcysteine and houttuynine at a ratio of 2:15:5. Capsules were formulated contg. benproperine 20, carboxymethyl cysteine 150, and houttuynine 50g.

IT **638-23-3**
RL: **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(compd. benproperine pharmaceutical compns. for respiratory infections)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 34 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:261047 HCAPLUS
DOCUMENT NUMBER: 118:261047
TITLE: Inhalation preparations containing carbocysteine
INVENTOR(S): Kamijo, Shinji; Imai, Atsushi; Hibino, Kazuhide
PATENT ASSIGNEE(S): Kyorin Seiyaku Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF

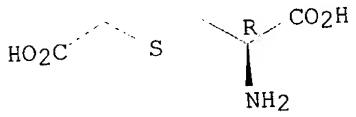
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05058888	A2	19930309	JP 1991-227099	19910906

AB Aq. solns. (pH 6.0-7.5) contg. carbocysteine (I) and stabilizers are sealed with inert gas in a container for inhalation. I (5 g) was mixed with H2O, aq. NaOH, and 1 g Na citrate, adjusted to pH 7.0 with aq. NaOH, mixed with H2O to 1000 mL, charged into glass tube, the air purged with N, and sealed. The inhalation prepn. was stable at 50.degree. for .gtoreq.2 mo, vs. poor stability, without the citrate and N.

IT **638-23-3**, Carbocysteine
RL: BIOL (Biological study)
(inhalation prepns. contg. stabilizers and, under inert gas)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 35 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:261046 HCAPLUS
DOCUMENT NUMBER: 118:261046
TITLE: Inhalation preparations containing carbocysteine
INVENTOR(S): Kamijo, Shinji; Imai, Atsushi; Hibino, Kazuhide
PATENT ASSIGNEE(S): Kyorin Seiyaku Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF

DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05058887	A2	19930309	JP 1991-227098	19910906

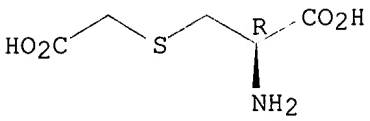
AB Aq. carbocysteine (I) solns. (pH 6.0-7.5) are sealed with inert gas in a container for single-use inhalation. I (50 g) was mixed with H2O, adjusted to pH 7.0 with aq. NaOH, mixed with H2O to 1000 mL, charged into amples, the air purged with N, and sealed to make inhalation prepn. (contg. 2 mL/ample), which was stable at 50.degree. for .gtoreq.2 mo, vs. poor stability, when the soln. was charged (50 mL/each) in glass tube and sealed without N.

IT **638-23-3**, Carbocysteine
RL: BIOL (Biological study)
(inhalation prepns. contg., under inert gas, stable)

RN 638-23-3 HCAPLUS

CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 36 OF 81 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1994:8968 HCAPLUS

DOCUMENT NUMBER: 120:8968

TITLE: Preparation of L-S-carboxymethylcysteine L-lysine salt monohydrate as a drug

INVENTOR(S): Argese, Maria; Bosone, Enrico; Clavenna, Gaetano; Giani, Roberto

PATENT ASSIGNEE(S): Dompe' Farmaceutici S.p.A., Italy

SOURCE: Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW

DOCUMENT TYPE: **Patent**

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 546272	A1	19930616	EP 1992-117267	19921009
EP 546272	B1	19960228		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
AT 134613	E	19960315	AT 1992-117267	19921009
ES 2049700	T3	19960416	ES 1992-117267	19921009
JP 05310686	A2	19931122	JP 1992-352125	19921210

PRIORITY APPLN. INFO.: IT 1991-MI3338 19911212

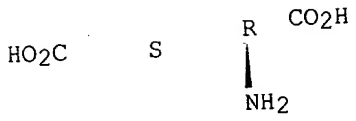
AB L-S-carboxymethylcysteine L-lysine salt monohydrate (I) was prepd. Thus, 1 mol L-S-carboxymethylcysteine was added to a 50% soln. of L-lysine contg. 1 mol of the latter followed by decolorization with active C, filtration and addn. of 5 vols. of EtOH to give 90% I. I has **mucolytic**, bronchosecretolytic, and antibronchospastic properties (no data).

IT **638-23-3**
RL: RCT (Reactant)
(salification of, with lysine, in prepn. of drug)

RN 638-23-3 HCAPLUS

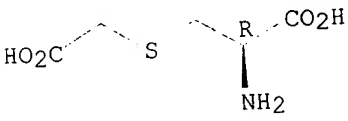
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 37 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:462714 HCAPLUS
DOCUMENT NUMBER: 117:62714
TITLE: The influence of sulfhydryl-containing mucolytics on the enzyme activity of human alveolar macrophages
AUTHOR(S): Mueller, L.; Wehle, K.; Kuepper, T.; Pfitzer, P.
CORPORATE SOURCE: Abt. Zytopathol., Heinrich-Heine-Univ., Duesseldorf, Germany
SOURCE: Atemwegs- Lungenkrankh. (1992), 18(3), 107-11
CODEN: ATLUDF; ISSN: 0341-3055
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Human sputa, bronchial secretions and lavages were stained cytochem. for several lysosomal enzymes after having been exposed to various concns. of N-acetylcysteine, carbocysteine, and mesna. A redn. of enzyme activity was obsd. in the samples treated with N-acetylcysteine in concn. >0.1%. Concns. which can be achieved in bronchial mucus by systemic application did not reduce the enzyme activity.
IT **638-23-3**, Carbocysteine
RL: BIOL (Biological study)
(enzymes of lung lavage and sputum responses to, in human)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 38 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:113527 HCAPLUS
DOCUMENT NUMBER: 116:113527
TITLE: Pharmaceutical compositions containing phenylpropanolamine for a mucus secretagogue in the upper airways
INVENTOR(S): Phipps, Roger John
PATENT ASSIGNEE(S): Procter and Gamble Co., USA
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: **Patent**
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9117746	A1	19911128	WO 1991-US3453	19910517
W: AU, CA, JP, KR				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
AU 9179920	A1	19911210	AU 1991-79920	19910517

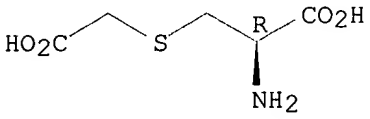
EP 530311	A1	19930310	EP 1991-911164	19910517
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
JP 05509300	T2	19931222	JP 1991-510443	19910517
ZA 9103831	A	19920226	ZA 1991-3831	19910521
US 5260073	A	19931109	US 1992-893956	19920604
AU 9520508	A1	19950803	AU 1995-20508	19950605
PRIORITY APPLN. INFO.:			US 1990-526218	19900521
			WO 1991-US3453	19910517

AB Mucus secretion is induced in the upper airways of persons with sinusitis or otitis media (characterized by retention of thickened respiratory secretions) by administration of an effective amt. of d-(+)-norephedrine, l-(-)-norephedrine, or mixts. thereof. Oral formulations are presented, as are clin. effectiveness reports.

IT **638-23-3**
RL: BIOL (Biological study)
(upper respiratory mucus secretion-inducing norephedrine compn. contg.)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 39 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:496164 HCAPLUS
DOCUMENT NUMBER: 113:96164
TITLE: Manufacture of S-(alkoxycarbonyl)methyl-L-cysteines with tryptophan synthase
INVENTOR(S): Nakamura, Takeshi; Ishiwatari, Kenichi; Makiguchi, Nobuyoshi
PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02072891	A2	19900313	JP 1988-221358	19880906

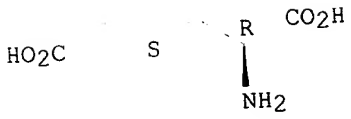
OTHER SOURCE(S): MARPAT 113:96164

AB L-RO2CCH2SCH2CH(NH2)CO2H (R = alkyl) (I), useful as intermediates for **expectorant** S-carboxymethyl-L-cysteine (II) and other pharmaceuticals, are manufd. by reaction of L-serine (III) with HSCH2CO2R (R = same as I) in the presence of tryptophan synthase. Treatment of III 100, Bu thioglycolate 100, and pyridoxal phosphate 0.1 mM with 0.9 units tryptophan synthase from Escherichia coli MT-10242 (FERM BP-20) at 35.degree. and pH 8.5 for 30 min produced 25.1 mM S-(butoxycarbonyl)methyl-L-cysteine, whereas 0.17 mM II was produced when III was treated similarly with thioglycolic acid instead of Bu thioglycolate.

IT **638-23-3P**
RL: PREP (Preparation)
(prepn. of, intermediate for, alkoxycarbonylmethylcysteines as)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

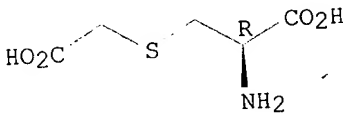


L48 ANSWER 40 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:150172 HCAPLUS
DOCUMENT NUMBER: 114:150172
TITLE: Coating of drug particles with cellulose derivatives and acrylic polymers
INVENTOR(S): Poli, Stefano; Moro, Luigi; Fiori, Achille; Natali, Alberto
PATENT ASSIGNEE(S): Poli Industria Chimica S.p.A., Italy
SOURCE: Ger. Offen., 8 pp.
CODEN: GWXXBX
DOCUMENT TYPE: **Patent**
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3943242	A1	19900628	DE 1989-3943242	19891222
FR 2670112	A1	19920612	FR 1989-17074	19891222
			IT 1988-23075	19881223

PRIORITY APPLN. INFO.:
AB Solid drugs are coated with a mixt. of a cellulose deriv. with a vinyl, acrylic and/or methacrylic and/or cyanoacrylic polymer. The coating is for sustained-release, taste masking, stabilization, etc. particles of a mixt. contg. 2 kg dihydroerogocristine methanesulfonate and 13 kg inert excipient were coated with a mixt. of Aquacoat ACD-30 48, Eudragit NE30D (acrylic ester-methacrylic ester copolymer latex) 24, ionic surfactant 3, and water 25%.
IT **638-23-3**, Carbocysteine
RL: BIOL (Biological study)
(coating of particles of, with polymers)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

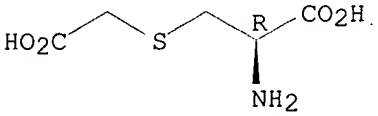


L48 ANSWER 41 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:35966 HCAPLUS
DOCUMENT NUMBER: 114:35966
TITLE: Temperature dependence of surface activity of films containing DPPC and selected drugs used in form of aerosols
AUTHOR(S): Pawelek, Janusz; Hanicka, Magdalena; Kurzawa, Ryszard
CORPORATE SOURCE: Inst. Catal. Surf. Chem., Pol. Acad. Sci., Krakow, 30-239, Pol.
SOURCE: Bull. Pol. Acad. Sci., Chem. (1990), Volume Date 1989, 37(9-12), 417-21
CODEN: BPACEQ; ISSN: 0239-7285
DOCUMENT TYPE: Journal

Searched by Barb O'Bryen, STIC 308-4291

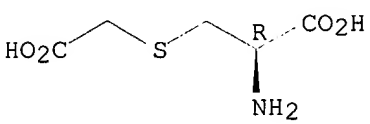
LANGUAGE: English
AB During therapy based on inhalation, possible interactions between the applied inhalant and pulmonary surfactant should be taken into consideration. Therefore, it seemed useful to det. in vitro at different temps. to what extent such inhalants as Atrovent, Berotec, Bricanyl, Salbutamol, Mistabron and Ambroxol affect surface activity of the monolayer of dipalmitoyl lecithin (DPPC), the basic component of pulmonary surfactant. The measurements were performed in a Langmuir trough. The temp. varied from 20.degree. to 40.degree.. All the examd. inhalants were found to increase the surface activity of DPPC monolayer, esp. at 37.degree.. Only Mistabron decreased the surface activity of DPPC monolayer, which is the result of solubilization of DPPC mols.
IT **638-23-3**
RL: BIOL (Biological study)
(aerosols contg., lung surfactant response to, temp.-dependent effects on dipalmitoylphosphatidylcholine membrane in evaluation of)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 42 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:57844 HCAPLUS
DOCUMENT NUMBER: 114:57844
TITLE: Assay of aspartylglycosylaminase by high-performance liquid chromatography
AUTHOR(S): Kaartinen, V.; Mononen, I.
CORPORATE SOURCE: Dep. Clin. Chem., Kuopio Univ., Kuopio, SF-70210, Finland
SOURCE: Anal. Biochem. (1990), 190(1), 98-101
CODEN: ANBCA2; ISSN: 0003-2697
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An aspartylglycosylaminase assay based on HPLC anal. of the substrate, aspartylglucosamine, and product, aspartate, is described. Aspartylglucosamine and aspartate are derivatized with phenylisothiocyanate and resolved by reverse-phase HPLC. The detection limit for the compds. is 2 pmol. The method can be used for anal. of aspartylglycosylaminase activity in crude cell exts. and tissue samples.
IT **638-23-3**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, HPLC method for)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 43 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:486955 HCAPLUS

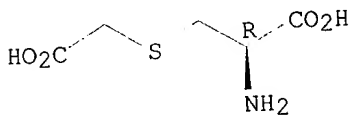
DOCUMENT NUMBER: 115:86955
TITLE: Morphologic changes of bronchial epithelial cells induced by sulfur dioxide during the recovery stage: effect of the S-CMC and Ambroxol
AUTHOR(S): Okamura, Takao; Satou, Shigeru; Aihara, Kaoru; Taga, Fukutarou; Okamura, Kyuya
CORPORATE SOURCE: Cent. Inst. Electron Microsc. Res., Nippon Med. Sch., Japan
SOURCE: Nippon Kaimen Igakkai Zasshi (1990), 21(1-2), 19-35
CODEN: NKIZDR; ISSN: 0288-8262
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB Continuous exposure of Wistar rat bronchial tree to 100 ppm SO2 revealed disintegration and loss of cilia and a decrease of mucin-secreting cells. These changes were most prominent after 3 days of exposure. After 1 wk, recovery of the damage was initiated and complete recovery was obsd. at 3 wk. The secretory granules prior to exposure to SO2 contained abundant PAS-pos. component presumably representing the neutral mucin. The mucin in the recovery stage consisted of basic mucin (Alcian Blue staining). The therapeutic effect of the S-CMC (carbocysteine) was represented by the prevention of degeneration. The cell protective effect of the Ambroxol was seen by the preservation of the cilia 3 days after exposure to SO2; however, no evidence for therapeutic effect of the agent was obsd. 1 wk after the exposure.

IT **638-23-3**, Carbocysteine
RL: BIOL (Biological study)
(sulfur dioxide toxicity to bronchial epithelium prevention by)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 44 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:125241 HCAPLUS
DOCUMENT NUMBER: 112:125241
TITLE: Secretolytic agents for the prevention of **snoring**
INVENTOR(S): Reichert, Dietrich
PATENT ASSIGNEE(S): Spain
SOURCE: U.S., 5 pp. Division of U.S. Ser. No. 47,560.
CODEN: USXXAM
DOCUMENT TYPE: **Patent**
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4876283	A	19891024	US 1989-325684	19890320
DE 3317530	A1	19841115	DE 1983-3317530	19830513
US 4831057	A	19890516	US 1987-47560	19870427

PRIORITY APPLN. INFO.:

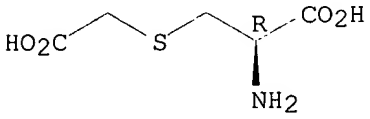
DE 1983-3317530	19830513
DE 1983-3317538	19830513
US 1984-609287	19840511
US 1987-47560	19870427
DE 1983-3317558	19830513

AB **Antisnoring** compns. for oral and local application in the nasal and pharyngeal cavities comprise a mucus-secreting agent (e.g. bromohexin) with diluents. Drops were manufd. from a mixt. contg. bromohexin 1.2 g, glycerol 1.0 mL, chlorobutanol 1.0 g, chamomile oil 0.2 g, and physiol. saline soln. to 100 g.

IT **638-23-3**
RL: BIOL (Biological study)
(**snoring** prevention by)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 45 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:77952 HCAPLUS
DOCUMENT NUMBER: 112:77952
TITLE: Preparation of S-carboxymethyl-L-cysteine
INVENTOR(S): Naijo, Shuichi; Inoue, Osami
PATENT ASSIGNEE(S): Showa Denko K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

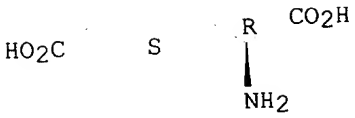
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01193245	A2	19890803	JP 1988-17159	19880129
JP 2501852	B2	19960529		

AB L-Cystine is reduced by HSO3- to L-cysteine and S-sulfo-L-cysteine (I) at pH 5.5-6.0 and below the b.p. of the reaction system, the mixt. is directly treated with a monohaloacetic acid at pH 5-7.5 to give selectively S-carboxymethyl-L-cysteine (II), which is isolated; I in the mother liquor is hydrolyzed with a mineral acid to L-cystine for recycle. II is useful as an intermediate for pharmaceuticals (**expectorants**). Thus, a soln. of 2.00 g L-cystine and 2.69 g Na2SO3 in 300 g H2O was adjusted to pH 5.8 with concd. H2SO4 at 60.degree. and allowed to react to give a mixt. of 1.01 g L-cysteine and 1.68 g I; the mixt. was adjusted to pH 6.8 with 7.5N NaOH and treated with 1.21 g ClCH2CO2H at 60.degree. under N to give 1.34 g II. The mother liquor contg. I after sepn. of II was acidified with concd. H2SO4 and heated at 115.degree. to give 0.36 g L-cystine.

IT **638-23-3P**, S-Carboxymethyl-L-cysteine
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, use of bisulfite ions as reducing agents in, as intermediate for pharmaceuticals)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



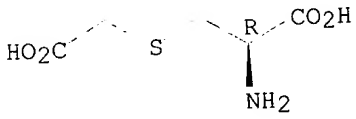
L48 ANSWER 46 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:93732 HCAPLUS
DOCUMENT NUMBER: 112:93732
TITLE: Oral N-acetylcysteine or S-carboxymethylcysteine inhibit cigarette smoke-induced hypersecretion of mucus in rat larynx and trachea in situ
AUTHOR(S): Rogers, D. F.; Turner, N. C.; Marriott, C.; Jeffery, P. K.
CORPORATE SOURCE: Natl. Heart Lung Inst., Brompton Hosp., London, SW3 6HP, UK
SOURCE: Eur. Respir. J. (1989), 2(10), 955-60
CODEN: ERJOEI; ISSN: 0903-1936
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Two weeks exposure of rats to cigarette smoke (CS) significantly increased the secretion of fucose-contg. glycoconjugates above normal in an in situ prepn. of larynx and trachea. After equilibration mean basal secretion in CS-exposed rats was 24 .mu.g (per 30 min collection) which was 8 times higher than that of unexposed animals. N-Acetylcysteine (NAC) or S-carboxymethylcysteine (SCMC) given as 1% of the drinking water, before and after daily exposure to CS, significantly inhibited the development of the CS-induced increase in fucose secretion reducing the mean for basal secretion in each group to 7 and 5 .mu.g, resp. Neither NAC nor SCMC had significant effects on baseline glycoconjugate secretion in control animals. Albumin was inconsistently present in the secretions of both control and CS-exposed animals, whereas in those exposed to CS and also given one of the two cysteine derivs. there was a consistent increase in albumin transudation.

IT **638-23-3**
RL: BIOL (Biological study)
(cigarette smoke effect on mucus secretion by larynx and trachea response to)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 47 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:556294 HCAPLUS
DOCUMENT NUMBER: 109:156294
TITLE: **Expectorants** containing carbocysteine and syrups.
INVENTOR(S): Kamijo, Shinji; Imai, Atsushi; Hibino, Kazuhide
PATENT ASSIGNEE(S): Kyorin Pharmaceutical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese

Searched by Barb O'Bryen, STIC 308-4291

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

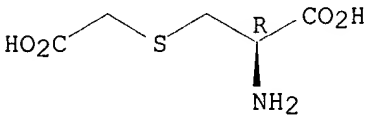
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63156719	A2	19880629	JP 1986-303462	19861219
JP 08013737	B4	19960214		

AB **Expectorant** syrups are prepd. contg. carbocysteine (I) and sugar alcs., which stabilize I. An aq. I soln. (5 % by wt./vol.) was mixed with 40 % by wt./vol. D-sorbitol (II) and left at 50.degree. for 30 days to show pH change -0.03, coloration (measured by colorimeter) 2.4, and residual I 97%, vs. -0.94, >50, and 42%, resp., for a control contg. glucose instead of I. A syrup was prepd. consisting of I 50, sorbic acid 1.0, II 400, caramel 0.6 g, aq. NaOH, fruit essence, and H2O.

IT **638-23-3**
RL: BIOL (Biological study)
(**expectorant** contg. sugar alcs. as sweeteners and, stability in relation to)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



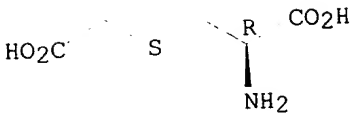
L48 ANSWER 48 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:89201 HCAPLUS
DOCUMENT NUMBER: 108:89201
TITLE: Morphologic changes of bronchial epithelium induced by sulfur dioxide and protective effect of the S-CMC administration
AUTHOR(S): Takao, Okamura; Shigeru, Satou; Kaoru, Aihara; Kouichi, Takagi; Kyuya, Okamura
CORPORATE SOURCE: Cent. Inst. Electron Microsc. Res., Nippon Med. Sch., Japan
SOURCE: Nippon Kaimen Igakkai Zasshi (1987), 18(1-2), 96-112
CODEN: NKIZDR
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB In rats exposed to 100 ppm SO2 for 6, 24, or 48 h, the no. of ciliated bronchial epithelial cells decreased below controls; the cells desquamated after 2-3 days. The no. of goblet cells in the bronchi increased after 6 h and desquamated after 1-3 days. After 7-day recovery, some regeneration of the damage was obsd. Oral pretreatment of the rats with 200 mg carbocysteine (S-CMC)/day for 5 days and during the SO2 exposure prevented most of the damage. Thus, carbocysteine protects the bronchial epithelium from SO2 damage.

IT **638-23-3**, Carbocysteine
RL: BIOL (Biological study)
(bronchi epithelium protection by, against sulfur dioxide inhalation toxicity)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

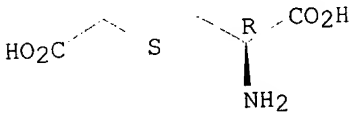


L48 ANSWER 49 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1987:432958 HCAPLUS
DOCUMENT NUMBER: 107:32958
TITLE: Comparison of the course of regeneration of changes induced in the respiratory epithelium by the oral administration of two different mucolytics
AUTHOR(S): Konradova, V.; Vavrova, V.; Sulova, J.
CORPORATE SOURCE: Karlova Univ., Prague, Czech.
SOURCE: Stud. Pneumol. Phtiseol. Cech. (1987), 47(1-2), 86-100
CODEN: SPPCAC; ISSN: 0371-2222
DOCUMENT TYPE: Journal
LANGUAGE: Czech

AB The authors investigated the course of regeneration after changes induced in the rabbit tracheal epithelium by oral administration of 1 dose of 2 mucolytic prepns., Bromhexine and Mucopront. Both mucolytics cause marked damage of the goblet cells of the respiratory epithelium. After rapid evacuation of the secretion, they degenerate. Bromhexine stimulates the massive differentiation of new mucus-secreting elements and formation of intraepithelial mucous glands. Changes induced in the tracheal epithelium by the action of the mucolytics do not recede within 3 days. Regeneration of goblet cells occurs sooner after administration of Bromhexine than after Mucopront. After Bromhexin there is also a more rapid decrease in the no. of stimulated and degenerated goblet cells in the epithelium. Seventy-two hours after administration of the 2 prepns., the no. of mucus-filled and degenerated goblet cells in the 2 exptl. groups does not differ. In both instances, in the epithelium 10% degenerated goblet cells remain. Administration of the 2 substances causes local disorders of mucus flow in the respiratory pathways. The impaired self-cleaning capacity of the epithelium is restored after administration of Mucopront in 3 days, after Bromhexine bacteria and condensed layers of mucus from the area of the ciliary border do not disappear within 72 h. The persisting disorder of the self-cleaning capacity of the epithelium is obviously due to the subsequent hyperplasia of the goblet cells and the appearance of the intraepithelial mucous glands.

IT **638-23-3**
RL: BIOL (Biological study)
(respiratory epithelium regeneration after administration of)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

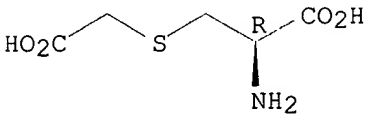


L48 ANSWER 50 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1986:618683 HCAPLUS
DOCUMENT NUMBER: 105:218683
TITLE: Preclinical and clinical investigation on combination effects of expectorants in chemotherapy of infectious respiratory diseases

Searched by Barb O'Bryen, STIC 308-4291

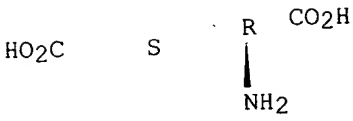
AUTHOR(S): Imaoka, Makoto
CORPORATE SOURCE: Dep. Int. Med., Shimane Prefect. Cent. Hosp., Izumo, 693, Japan
SOURCE: Chemotherapy (Tokyo) (1986), 34(3), 262-70
CODEN: NKRZAZ; ISSN: 0369-4682
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB Mice were orally treated with rifampicin (I) [13292-46-1] , ampicillin [69-53-4], orcephalexin [15686-71-2] alone or in combination with expectorants ambroxol (II) [18683-91-5], carbocysteine [**638-23-3**], or serratiopeptidase [37312-62-2]. After combination treatment with expectorants peak blood levels of the antibiotics increased in serum, lung, liver, and kidney. After combination of I plus II, the antibiotic concns. increased in serum and lung; the peak level increased by 46-137%. The results are discussed in terms of chemotherapy of infectious respiratory disease.
IT **638-23-3**
RL: BIOL (Biological study)
(respiratory tract infection therapy with antibiotics and)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 51 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1986:218907 HCAPLUS
DOCUMENT NUMBER: 104:218907
TITLE: Regeneration of changes induced in rabbit tracheal epithelium by a single oral dose of a mucolytic agent
AUTHOR(S): Konradova, V.; Vavrova, V.; Sulova, J.
CORPORATE SOURCE: Fac. Pediatr., Charles Univ., Prague, Czech.
SOURCE: Folia Morphol. (Prague) (1986), 34(1), 52-8
CODEN: FMORAO; ISSN: 0015-5640
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In rabbits, carbocysteine [**638-23-3**] (100 mg, orally) did not have much effect on the ciliated cells, but it markedly stimulated and damaged the goblet cells. The percentage of degenerated goblet cells peaked in 60 min. Seventy-two h after administration of the mucolytic agent 26% of the stimulated and 10% of degenerated goblet cells were left in the epithelium. The excessive amt. of secretory material released into the airway lumen caused local disturbances of the mucus flow which were still pronounced 24 h after the drug administration and had not disappeared completely by the end of the exptl. period (72 h).
IT **638-23-3**
RL: BIOL (Biological study)
(toxiciity of, to trachea epithelium)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 52 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1986:88964 HCAPLUS
DOCUMENT NUMBER: 104:88964
TITLE: Highly-pure S-(carboxymethyl)-L-cysteine hydrocholoride
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 2 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

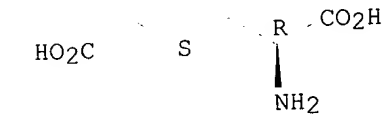
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60072857	A2	19850424	JP 1983-180030	19830928

AB Title compd., the hydrochloride salt of an **expectorant** (no data), was prepd. in high purity by crystg. S-(carboxymethyl)-L-cysteine (I) as the HCl salt from its soln. contg. L-cystine (II). Thus, a soln. of 200 g I contg. 1% II in aq. HCl was heated at 70.degree., seeded with I.HCl, cooled, filtered, and the filtrate neutralized with NaOH to give 120 g I of 99.5% purity (II content .ltoreq. 0.20%).

IT **638-23-3P**
RL: PUR (Purification or recovery); PREP (Preparation)
(purifn. of)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 53 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1986:88962 HCAPLUS
DOCUMENT NUMBER: 104:88962
TITLE: Purification of S-(carboxymethyl)-L-cysteine
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 2 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

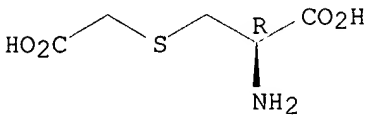
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60072855	A2	19850424	JP 1983-180028	19830928

AB The title compd. (I), useful as an **expectorant** (no data), was purified by seeding solns. contg. both I and cystine (II) with II and sepg. II by adjusting to a pH close to its isoelec. point. Thus, a soln.

of 40 g I in aq. NaOH contg. 2 wt.% of II was adjusted to pH 6.5, 0.2 g II added, and the resulting mixt. heated at 50.degree. for 4 days to give 38 g I of .gtoreq.99.5% purity.

IT **638-23-3P**
RL: PUR (Purification or recovery); PREP (Preparation)
(purifn. of, as **expectorant**)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



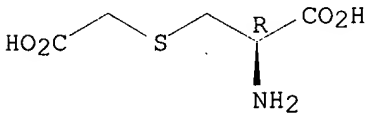
L48 ANSWER 54 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1986:51102 HCAPLUS
DOCUMENT NUMBER: 104:51102
TITLE: S-carboxymethyl-D-cysteine
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 2 pp.
CODEN: JKXXAF
DOCUMENT TYPE: **Patent**
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60069063	A2	19850419	JP 1983-178757	19830927
JP 03040022	B4	19910617		

AB Title compd. (I), useful as an **expectorant** (no data), was purified by adsorbing L-cystine (II) with strongly acidic cation exchangers from the acidic soln. of I contg. II. Thus, HCl soln. of I (pH = 0.2) contg. II was eluted through strongly acidic cation exchanger (SKIB, H type) and the eluant neutralized to give I in 99.5% purity.

IT **638-23-3P**
RL: PUR (Purification or recovery); PREP (Preparation)
(purifn. of, as **expectorant**)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 55 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1987:428377 HCAPLUS
DOCUMENT NUMBER: 107:28377
TITLE: Process for the preparation of zinc carbocysteinate
INVENTOR(S): Buxade Vinas, Antonio
PATENT ASSIGNEE(S): Laboratorios Vinas S. A., Spain
SOURCE: Span., 7 pp.
CODEN: SPXXAD
DOCUMENT TYPE: **Patent**

Searched by Barb O'Bryen, STIC 308-4291

LANGUAGE: Spanish
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ES 524820	A1	19850201	ES 1983-524820	19830808
GB 2146324	A1	19850417	GB 1984-4634	19840222
GB 2146324	B2	19870218		
FR 2550446	A1	19850215	FR 1984-12271	19840727
FR 2550446	B1	19871211		
JP 60054354	A2	19850328	JP 1984-161492	19840731
US 4618625	A	19861021	US 1984-636201	19840731
DE 3428399	A1	19850228	DE 1984-3428399	19840801

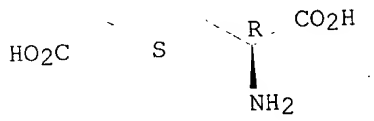
PRIORITY APPLN. INFO.: ES 1983-524820 19830808

AB Zn carbocysteinate (1:2) (I), useful as a mucoserous agent (no data), is prepd. by salification of carbocysteine (II) with ZnO, Zn(OH)2, or another Zn salt in approx. stoichiometric proportions in one or more polar solvents. An aq. soln. of 44 g Zn (OAc)2 was added to an aq. suspension of 35.8 g II, and the mixt. was refluxed for 2 h to ppt. 35 g I.

IT **638-23-3**, Carbocysteine
RL: BIOL (Biological study)
(salt exchange of, with zinc salts)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

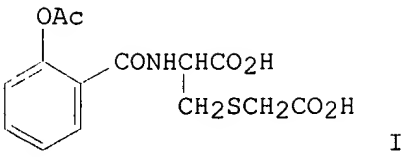


L48 ANSWER 56 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1985:523924 HCAPLUS
DOCUMENT NUMBER: 103:123924
TITLE: Cysteine derivatives
INVENTOR(S): Puricelli, Laura
PATENT ASSIGNEE(S): Magis Farmaceutici S.r.l., Italy
SOURCE: Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DOCUMENT TYPE: **Patent**
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 143399	A2	19850605	EP 1984-113796	19841115
EP 143399	A3	19860723		
EP 143399	B1	19880706		
R: AT, BE, CH, DE, FR, GB, LI, LU, NL, SE				
AT 35536	E	19880715	AT 1984-113796	19841115
US 4559360	A	19851217	US 1984-673619	19841121

PRIORITY APPLN. INFO.: IT 1983-23844 19831123
EP 1984-113796 19841115

GI



I

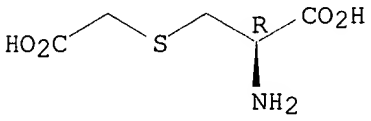
AB Cysteine derivs. RO2CCH2SCH2CH(NHR1)CO2R2 (R, R1, R2 = H, acetylsalicyloyl) were prepd. as **mucolytics**, antipyretics, analgesics, and inflammation inhibitors. Thus, L-HO2CCH2SCH2CH(NH2)CO2H was N-acylated with 2-AcOC6H4COCl in THF to give cysteine deriv. I. The toxicity of I in rats was LD50 4,800 mg/kg (oral). Antiinflammatory, antipyretic, and antibronchial activities of the above cysteine derivs. are discussed.

IT **638-23-3**
RL: RCT (Reactant)
(benzoylation of, with acetoxybenzoyl chloride)

RN 638-23-3 HCAPLUS

CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 57 OF 81 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1985:553780 HCAPLUS

DOCUMENT NUMBER: 103:153780

TITLE: Comparison of the effect of three oral mucolytics on the ultrastructure of the tracheal epithelium in rabbits

AUTHOR(S): Konradova, Vaclava; Vavrova, V.; Sulova, J.

CORPORATE SOURCE: Lab. Electron Microsc., Res. Inst. Child Dev., Prague, 150 00, Czech.

SOURCE: Respiration (1985), 48(1), 50-7
CODEN: RESPBD; ISSN: 0025-7931

DOCUMENT TYPE: Journal

LANGUAGE: English

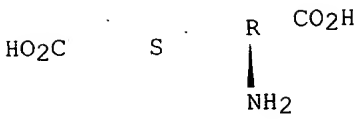
AB The effect of the application of a single oral dose of 100 mg of three mucolytic agents [N-acetylcysteine [616-91-1], carbocysteine [**638-23-3**] and 2-mercaptoethane sulfonic acid [3375-50-6]] on the ultrastructure of the tracheal epithelium of healthy rabbits was studied. Due to the function of oral mucolytics, the goblet cells were overstimulated and injured. 2-Mercaptoethane sulfonic acid was the least irritating substance. Acetylcysteine produced the most pronounced injury of the globlet cells, followed by rapid differentiation of these cells. Oral administration of all mucolytics studied caused local impairment of mucus flow in the airways.

IT **638-23-3**
RL: BIOL (Biological study)
(trachea epithelium toxicity from)

RN 638-23-3 HCAPLUS

CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 58 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1985:84405 HCAPLUS
DOCUMENT NUMBER: 102:84405
TITLE: Oral **antisnoring** agent
INVENTOR(S): Reichert, Dietrich
PATENT ASSIGNEE(S): Spain
SOURCE: Ger. Offen., 17 pp.
CODEN: GWXXBX
DOCUMENT TYPE: **Patent**
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3317558	A1	19841115	DE 1983-3317558	19830513
AU 8427807	A1	19841115	AU 1984-27807	19840509
AU 574360	B2	19880707		
EP 125634	A1	19841121	EP 1984-105287	19840510
EP 125634	B1	19900926		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
AT 56879	E	19901015	AT 1984-105287	19840510
JP 60034910	A2	19850222	JP 1984-96305	19840514
US 4831057	A	19890516	US 1987-47560	19870427

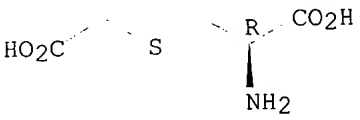
PRIORITY APPLN. INFO.:
DE 1983-3317530 19830513
DE 1983-3317558 19830513
EP 1984-105287 19840510
US 1984-609287 19840511

AB An oral **antisnoring** agent contains compds. with secretolytic effects or effects on mucous-membrane secretion prodn., carriers and diluents. The active compd. regulate and normalize mucus viscosity, decrease mucus adhesion by activating surfactant properties of the secretion, stimulation of mucus prodn., and activate the mucociliary function. Capsules were prepd. from a mixt. of ambroxol-HCl [23828-92-4] 10.0, cornstarch 24.0, and Aerosil 200 0.4 g; each capsule contained 170 mg mixt.

IT **638-23-3**
RL: BIOL (Biological study)
(oral **antisnoring** pharmaceuticals contg.)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 59 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1985:84406 HCAPLUS
DOCUMENT NUMBER: 102:84406
TITLE: **Antisnoring** agent
INVENTOR(S): Reichert, Dietrich

PATENT ASSIGNEE(S): Spain
SOURCE: Ger. Offen., 17 pp.
CODEN: GWXXBX
DOCUMENT TYPE: **Patent**
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3317530	A1	19841115	DE 1983-3317530	19830513
CA 1216232	A1	19870106	CA 1983-429349	19830531
AU 8427807	A1	19841115	AU 1984-27807	19840509
AU 574360	B2	19880707		
ZA 8403502	A	19841224	ZA 1984-3502	19840509
CA 1223210	A1	19870623	CA 1984-453961	19840509
EP 125634	A1	19841121	EP 1984-105287	19840510
EP 125634	B1	19900926		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
AT 56879	E	19901015	AT 1984-105287	19840510
JP 60034909	A2	19850222	JP 1984-96304	19840514
CH 662734	A	19871030	CH 1984-4619	19840926
US 4831057	A	19890516	US 1987-47560	19870427
US 4876283	A	19891024	US 1989-325684	19890320

PRIORITY APPLN. INFO.:

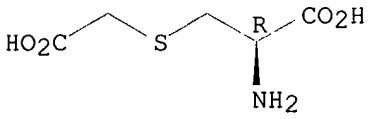
DE 1983-3317530	19830513
DE 1983-3317538	19830513
DE 1983-3317558	19830513
EP 1984-105287	19840510
US 1984-609287	19840511
US 1987-47560	19870427

AB An **antisnoring** agent for topical application to the nose or throat contains a secretolytic together with mucous membrane-compatible carriers or diluents. The compns. are in spray or inhalation soln. forms. The active secretolytics regulate and normalize mucus viscosity, decrease mucus adhesion by activation of surfactant properties, stimulate serous mucus prodn., and activate the mucociliary function. A nasal compn. was prepd. from a mixt. of ambroxol-HCl [23828-92-4] 10.0, glycerol [56-81-5] 1.0 mL, benzalkonium chloride 1.0 g and physiol. saline soln. to 100 mL for 1/2 - 1 mL doses.

IT **638-23-3**
RL: BIOL (Biological study)
(nasal **antisnoring** pharmaceuticals contg.)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



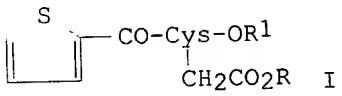
L48 ANSWER 60 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1985:25034 HCAPLUS
DOCUMENT NUMBER: 102:25034
TITLE: S-Carboxymethylcysteine derivatives with therapeutic activity and pharmaceutical compositions containing them
PATENT ASSIGNEE(S): Istituto Biochimico Pavese S.p.A., Italy
SOURCE: Belg., 17 pp.
CODEN: BEXXAL

Searched by Barb O'Bryen, STIC 308-4291

DOCUMENT TYPE: **Patent**
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 899777	A1	19840917	BE 1984-213024	19840529
ES 532870	A1	19850616	ES 1984-532870	19840526
CH 661511	A	19870731	CH 1984-2628	19840529
FR 2549057	A1	19850118	FR 1984-8519	19840530
FR 2549057	B1	19870116		

PRIORITY APPLN. INFO.: IT 1983-21358 19830530
GI

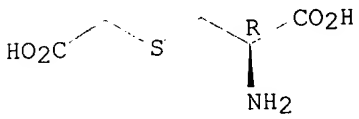


I

AB S-Carboxymethylcysteine derivs. I (R = H, alkali or alk. earth metal, or org. or inorg. base or basic amino acid or antibiotic residue; R1 = H, alkali or alk. earth metal) were prepd. Thus, an aq. soln. of S-carboxymethylcysteine was neutralized with NaOH, 2-thiophenecarbonyl chloride in AcOEt added at 0-5.degree., and the mixt. kept at 2 h at 30-40.degree. to give I (R = R1 = H) (II). The Ca salt of II had higher **mucolytic** activity than acetylcysteine in mice.

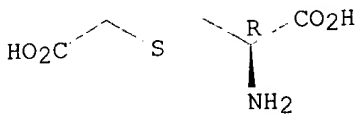
IT **638-23-3**
RL: RCT (Reactant)
(acylation of, with thiophenecarbonyl chloride)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **638-23-3DP**, derivs.
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

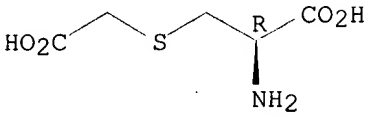


L48 ANSWER 61 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1983:482288 HCAPLUS
DOCUMENT NUMBER: 99:82288
TITLE: Change in glycoprotein composition in tracheal

Searched by Barb O'Bryen, STIC 308-4291

submucosal glands by S-carboxymethylcysteine treatment
AUTHOR(S): Takeda, Hiroshi; Ohkura, Yasufumi; Misawa, Miwa; Yanaura, Saizo
CORPORATE SOURCE: Sch. Pharm., Hoshi Univ., Tokyo, 142, Japan
SOURCE: Nippon Yakurigaku Zasshi (1983), 82(1), 19-25
CODEN: NYKZAU; ISSN: 0015-5691
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB The mechanism for the expectorant effect of S-carboxymethylcysteine (I) [**638-23-3**] was studied histol., and histochem. using isolated canine trachea. Following I treatment, the no. of total glycoprotein-contg. goblet cells (GC) did not change. The nos. of acid glycoprotein (II)-,. neutral glycoprotein (III)-, and sulfated glycoprotein (IV)-contg. GC were also unaltered in a concn. range of 10-7 to 10-4M. On the other hand, the ratio of the acinar inner diam. of submucosal glands (SG) to the tracheal wall thickness was increased with 10-5 and 10-4M of I and the thickness of the acini of SG decreased with 10-4M I. Although the ratio of the nos. of II- to III-contg. glandular cells and II content in the cells did not change, the no. of IV-contg. glandular cells significantly decreased concn.-dependently. Apparently, I had a selective secretagogic action on SG, and an action which alters the compn. of II, a chief viscous factor, in the mucous granules of SG.
IT **638-23-3**
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(glycoproteins of tracheal submucosal glands response to)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

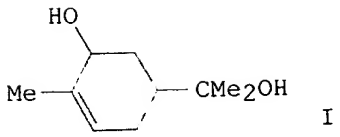
Absolute stereochemistry.



L48 ANSWER 62 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1983:149605 HCAPLUS
DOCUMENT NUMBER: 98:149605
TITLE: Pharmaceutical composition containing S-carboxymethylcysteine and sobrerol
INVENTOR(S): Massaroli, Giangiacomo
PATENT ASSIGNEE(S): Poli Industria Chimica S.p.A., Italy
SOURCE: Fr. Demande, 9 pp.
CODEN: FRXXBL
DOCUMENT TYPE: **Patent**
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2506614	A1	19821203	FR 1982-9236	19820527
FR 2506614	B1	19860314		
DE 3219994	A1	19830127	DE 1982-3219994	19820527

PRIORITY APPLN. INFO.: IT 1981-22000 19810528
GI



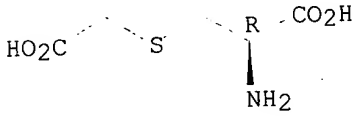
I

AB sobrerol (I) [498-71-5] is combined with the **mucolytic** agent S-carboxymethylcysteine (II) [**638-23-3**] to improve its antiinflammatory-**mucolytic** activity, to reduce the viscosity of bronchial secretions, and to favor the regeneration of bronchial mucus. A syrup was prepd. contg. II 5, I 0.8, sucrose 42, Me p-hydroxybenzoate 0.15, NaH_2PO_4 0.5, NaOH 1.11, flavor 0.0665, and H_2O to 100 g. Capsules and suppositories and other dosage forms contg. I and II were also prepd.

IT **638-23-3**
RL: BIOL (Biological study)
(antitussive compns. contg. sobrerol and)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



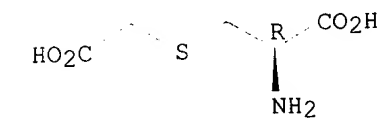
L48 ANSWER 63 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1982:608359 HCAPLUS
DOCUMENT NUMBER: 97:208359
TITLE: Effect of oral administration of the mucolytic agent Mucopront on the ultrastructure of the epithelium of the respiratory passages
AUTHOR(S): Konradova, V.; Vavrova, V.; Sulova, J.
CORPORATE SOURCE: Fak. Detskeho Lek., KU, Prague, Czech.
SOURCE: Cesk. Pediatr. (1982), 37(9), 497-500, 2 plates
CODEN: CEPEA3; ISSN: 0069-2328
DOCUMENT TYPE: Journal
LANGUAGE: Czech

AB At 20 and 60 min after a single oral administration of 100 mg Mucopront (carbocysteine) [**638-23-3**] to rabbits, no effect was obsd. on the ultrastructure of the ciliated cells of the tracheal epithelium. Goblet cells, however, were markedly affected. The excessive amt. of mucus released from the goblet cells impaired the self-cleaning ability of the tracheal epithelium.

IT **638-23-3**
RL: BIOL (Biological study)
(respiratory tract epithelium ultrastructure response to)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

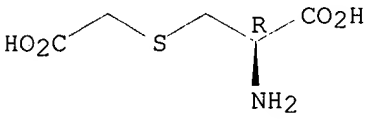


L48 ANSWER 64 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1981:575817 HCAPLUS
DOCUMENT NUMBER: 95:175817
TITLE: Pharmaceutical compositions with **mucolytic**, bronchosecretolytic and antibronchospastic activity
PATENT ASSIGNEE(S): Dompe Farmaceutici S.p.A., Italy
SOURCE: Belg., 6 pp.
CODEN: BEXXAL
DOCUMENT TYPE: **Patent**
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 887922	A1	19810701	BE 1981-204105	19810312
PRIORITY APPLN. INFO.:			IT 1980-20699	19800317

AB (.+-.)-Lysine (-)-carboxymethylcysteinate (I) [79458-68-7], prepd. by treating (-)-S-carboxymethylcysteine [**638-23-3**] with (.+-.)-lysine-HCl [70-53-1], has a high **mucolytic**, bronchosecretolytic, and antibronchospastic activity and high bioavailability, as compared to carboxymethylcysteine. I can be used in the form of tablets, capsules, syrups, or parenteral solns.
IT **638-23-3**
RL: RCT (Reactant)
(reaction of, with lysine hydrochloride)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

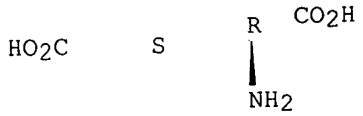
Absolute stereochemistry.



L48 ANSWER 65 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1982:173826 HCAPLUS
DOCUMENT NUMBER: 96:173826
TITLE: Tissue distribution of S-carboxymethylcysteine in the rat: concentration in mucus-producing organs including the prostate
AUTHOR(S): Bodmer, Judith L.; Waring, Rosemary H.
CORPORATE SOURCE: Dep. Biochem., Univ. Birmingham, Birmingham, B15 2TT, UK
SOURCE: Biochem. Soc. Trans. (1981), 9(6), 549-50
CODEN: BCSTB5; ISSN: 0300-5127
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Autoradiog. examn. of the distribution of tissue labeling in rats given 14C-labeled S-carboxymethylcysteine (I) [**638-23-3**] (100 mg/kg, orally) indicated that I or a metabolite has some affinity for bronchopulmonary tissue, but that concns. in other mucus-producing organs may be as high if not higher than those in the lung. This may have therapeutic implications, particularly in the treatment of chronic prostatitis, where the mucolytic action of I might be effective.
IT **638-23-3**
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(pharmacokinetics of, in mucus-producing tissues)
RN 638-23-3 HCAPLUS

CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

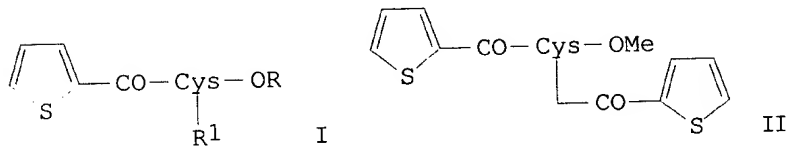
Absolute stereochemistry.



L48 ANSWER 66 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1980:472302 HCAPLUS
DOCUMENT NUMBER: 93:72302
TITLE: Cysteine derivatives
INVENTOR(S): Dong, Le Hao; Coquelet, Claude
PATENT ASSIGNEE(S): Laboratoires Chauvin-Blache S. A., Fr.
SOURCE: Fr. Demande, 12 pp. Addn. to Fr. Demande 2,266,502.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2430945	A2	19800208	FR 1978-20878	19780712

GI

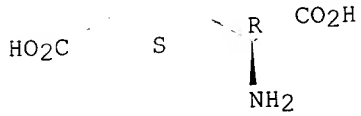


AB Cysteines I (R = H, C1-8 alkyl; R1 = .alpha.-thenoyl, CH2CO2H) were prepd. as bronchial protectors. Thus, N-.alpha.-thenoyl-L-cysteine Me ester was S-acylated with .alpha.-thenoyl chloride to give 70% cysteine II. I (R = H, R1 = CH2CO2H) (III) was also prepd. Data are given on the treatment of rats exposed to SO2 gas with II (360 mg/kg) and III (400 mg/kg).

IT **638-23-3**
RL: RCT (Reactant)
(N-acylation of, with thenoyl chloride)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

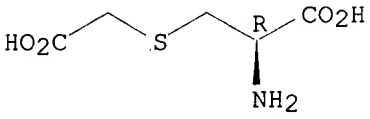
Absolute stereochemistry.



L48 ANSWER 67 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1981:57721 HCAPLUS
DOCUMENT NUMBER: 94:57721

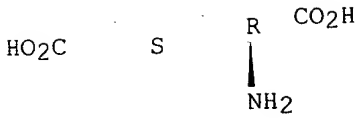
TITLE: The effect of mucolytic agents on the rheologic and transport properties of canine tracheal mucus
AUTHOR(S): Puchelle, E.; Sadoul, P.
CORPORATE SOURCE: Unite Rech. Physiopathol., INSERM, Vandoeuvre-les-Nancy, 54500, Fr.
SOURCE: Am. Rev. Respir. Dis. (1980), 122(5, Pt. 1), 808-9
CODEN: ARDSBL; ISSN: 0003-0805
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 11 refs. of evidence to indicate that S-carboxymethyl cysteine [**638-23-3**] is not purely a mucolytic agent but is a mucoregulator capable of normalizing the secretory disorders of the bronchial mucosa.
IT **638-23-3**
RL: BIOL (Biological study)
(mucus secretion by bronchi response to)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 68 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1980:400482 HCAPLUS
DOCUMENT NUMBER: 93:482
TITLE: The effect of mucolytic agents on the rheologic and transport properties of canine tracheal mucus
AUTHOR(S): Martin, Roberto; Litt, Mitchell; Marriott, Christopher
CORPORATE SOURCE: Dep. Bioeng., Univ. Pennsylvania, Philadelphia, PA, 19104, USA
SOURCE: Am. Rev. Respir. Dis. (1980), 121(3), 495-500
CODEN: ARDSBL; ISSN: 0003-0805
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The effect of several SH and other agents on the rheol. and mucociliary transport properties of a model secretion, reconstituted canine tracheal mucus, was investigated. The mucus was obtained via the canine tracheal pouch. Rheol. properties were detd. by microrheometry, and the ciliary transport rate was detd. using the frog palate technique. N-Acetyl cysteine [616-91-1] decreased the elastic modulus, leading to improved mucociliary transport at concns. such that the mucin did not ppt. S-Carboxymethyl cysteine [**638-23-3**] had no effect on either mucus properties or mucociliary transport rate, and its reported effectiveness in vivo must be due to some mechanism other than solubilization of mucin. Similar results were found with other blocked SH compds. Urea and KI did decrease mucus elasticity, but were harmful to cilia at the concns. needed.
IT **638-23-3**
RL: BIOL (Biological study)
(tracheal mucus transport response to)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



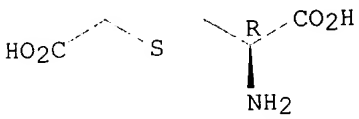
L48 ANSWER 69 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1981:435443 HCAPLUS
DOCUMENT NUMBER: 95:35443
TITLE: Tracheobronchial function in health and disease. Effect of mucolytic substances
AUTHOR(S): Melville, G. Norris; Ismail, S.; Sealy, C.
CORPORATE SOURCE: Physiol. Dep., Univ. West Indies, Kingston, Jamaica
SOURCE: Respiration (1980), 40(6), 329-36
CODEN: RESPBD; ISSN: 0025-7931
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The effect of mucolytic and expectorant substances on ciliary beat frequency, mucus transport velocity, and mucus prodn., was investigated in normal and bronchitic rats. N-Acetylcysteine [616-91-1] and S-carboxymethylcysteine [**638-23-3**] were mildly cilioexcitatory at low and ciliodepressive at higher concns. in both normal and bronchitic rats. A similar pattern was seen in mucus transport velocity. Bisolvon [611-75-6] enhanced all aspects of mucociliary activity in both groups of animals. Sobrepin [78006-54-9] was less effective than Bisolvon and more effective than Tachoquilin [9046-29-1]. Gelomyrtol [8002-55-9], Ozothine [8031-65-0] and prostaglandin E1 [745-65-3] were all cilioexcitatory in rats with bronchitis. Mucus transport velocity was similarly stimulated by both Gelomyrtol and Ozothine. Ammonium chloride and potassium iodide enhanced mucociliary activity in normal and bronchitic rats. All substances stimulated mucus prodn., however, the most potent was prostaglandin E1. The mechanisms for increased mucociliary activity involve inter alia the probable cleaving of disulfide bridges, decreased mucosal swelling, altered rheol. characteristics and stimulation of adenylate cyclase.

IT **638-23-3**
RL: BIOL (Biological study)
(ciliary beat frequency and mucus transport and mucus prodn. response to)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



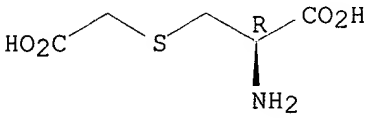
L48 ANSWER 70 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1979:581454 HCAPLUS
DOCUMENT NUMBER: 91:181454
TITLE: Therapeutic compositions with bacteriolytic and **mucolytic** action
INVENTOR(S): Prugnaud, Robert Louis
PATENT ASSIGNEE(S): Fr.
SOURCE: Fr. Demande, 18 pp.
CODEN: FRXXBL
DOCUMENT TYPE: **Patent**

LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

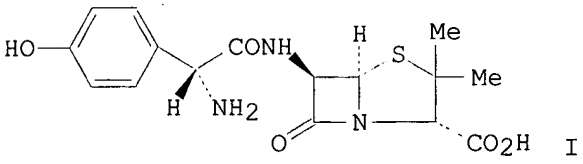
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2398497	A1	19790223	FR 1977-22715	19770725

AB A **mucolytic** and bactericidal compn. contains ampicillin [69-53-4] and S-carboxymethylcysteine [**638-23-3**].
IT **638-23-3**
RL: BIOL (Biological study)
(bactericidal-**mucolytic** compn. contg. ampicillin and)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



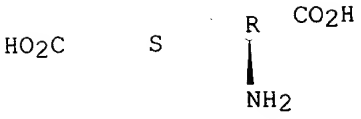
L48 ANSWER 71 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1980:33658 HCAPLUS
DOCUMENT NUMBER: 92:33658
TITLE: Effects of S-carboxymethylcysteine on the absorption of orally administered amoxicillin in rats
AUTHOR(S): Broccali, G.; Nusdeo, O.
CORPORATE SOURCE: Lab. Ric. Biomed., Ital. Soc. Farm., Trezzano, Italy
SOURCE: Riv. Farmacol. Ter. (1979), 10(2), 173-8
CODEN: RVFTBB; ISSN: 0302-1750
DOCUMENT TYPE: Journal
LANGUAGE: Italian
GI



I

AB The absorption of intragastrically administered Na amoxicillin (I Na salt) [34642-77-8] (100 mg/kg) in rats was enhanced by the simultaneous administration of the mucolytic compd. S-carboxymethylcysteine [**638-23-3**] (30 mg/kg), as shown by increased I concns. in the serum, lungs, and inflammatory exudate.
IT **638-23-3**
RL: BIOL (Biological study)
(amoxicillin absorption by digestive tract increase by)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 72 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1978:191491 HCAPLUS
DOCUMENT NUMBER: 88:191491
TITLE: Sulfur-containing N-benzylamino acids
INVENTOR(S): Baille-Barrelle; Vigneron, Maurice; Lespagnol, Charles
PATENT ASSIGNEE(S): Laboratoires Boehringer Ingelheim, Fr.
SOURCE: Ger. Offen., 27 pp.
CODEN: GWXXBX

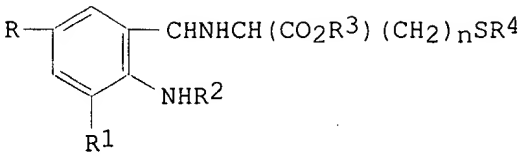
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2628911	A1	19780112	DE 1976-2628911	19760628
FI 7701834	A	19771229	FI 1977-1834	19770610
FI 68613	B	19850628		
FI 68613	C	19851010		
AT 7704215	A	19780815	AT 1977-4215	19770615
AT 348983	B	19790312		
NO 7702237	A	19771229	NO 1977-2237	19770624
NO 144421	B	19810518		
NO 144421	C	19810826		
BE 856157	A1	19771227	BE 1977-178820	19770627
DK 7702854	A	19771229	DK 1977-2854	19770627
DK 146445	B	19831010		
DK 146445	C	19840319		
SE 7707418	A	19771229	SE 1977-7418	19770627
SE 441093	B	19850909		
SE 441093	C	19851219		
NL 7707085	A	19771230	NL 1977-7085	19770627
JP 53031630	A2	19780325	JP 1977-76438	19770627
ES 460117	A1	19781001	ES 1977-460117	19770627
ZA 7703835	A	19790228	ZA 1977-3835	19770627
US 4185114	A	19800122	US 1977-810087	19770627
CH 629483	A	19820430	CH 1977-7873	19770627
FR 2357539	A1	19780203	FR 1977-19825	19770628
FR 2357539	B1	19821112		
GB 1565411	A	19800423	GB 1977-27068	19770628
GB 1565412	A	19800423	GB 1979-197	19770628
GB 1565413	A	19800423	GB 1979-198	19770628
AT 7803143	A	19781115	AT 1978-3143	19780502
AT 350523	B	19790611		
AT 7803144	A	19790115	AT 1978-3144	19780502
AT 351506	B	19790725		
AT 7803145	A	19790115	AT 1978-3145	19780502
AT 351507	B	19790725		
ES 470892	A1	19790201	ES 1978-470892	19780616
ES 470890	A1	19790201	ES 1978-470890	19780616

PRIORITY APPLN. INFO.:

DE 1976-2628911	19760628
GB 1977-2628911	19760628
AT 1977-4215	19770615
GB 1977-27068	19770628

GI



I

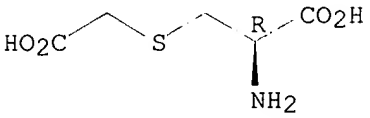
AB N-benzyl S-contg. amino acids I (R and R1 = H, halo; R2 = H, aliph, acyl; R3 = H, C1-4 alkyl; R4 = H, C1-3 alkyl, carboxy lower alkyl, acyl; n = 1, 2), their inorg. or org. acid addn. salts, their sulfonic acid salts, and, if R3 = H, their compds. with inorg. or org. bases or basic amino acids were prepd. as agents for the treatment of bronchial hypersecretions produced by irrations. Thus, methionine was treated with o-nitrobenzaldehyde to give the Schiff base which was reduced with NaBH4 to give o-O2NC6H4CH2-Met-OH (II). II was hydrogenated over Raney Ni to give 80% o-H2NC6H4CH2-Met-OH which was brominated by Br in HOAc at 60-65.degree. to give 27.5% I (R = R1 = Br, R2 = R3 = H, R4 = Me) (III). III at 468.7 mg/kg was used in guinea pigs against bronchial hypersecretions produced by inhalation of NH3 vapor.

IT **638-23-3**
RL: RCT (Reactant)
(reaction of, with nitrobenzaldehyde)

RN 638-23-3 HCAPLUS

CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 73 OF 81 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1978:471708 HCAPLUS
DOCUMENT NUMBER: 89:71708
TITLE: The biological fate of vinylidene chloride in rats
AUTHOR(S): Jones, B. K.; Hathway, D. E.
CORPORATE SOURCE: Cent. Toxicol. Lab., Imp. Chem. Ind. Ltd., Alderley Park/Cheshire, Engl.
SOURCE: Chem.-Biol. Interact. (1978), 20(1), 27-41
CODEN: CBINA8; ISSN: 0009-2797
DOCUMENT TYPE: Journal
LANGUAGE: English

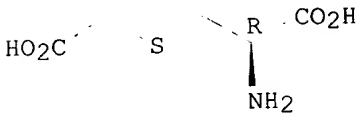
AB The main eliminative route for 14C-labeled vinylidene chloride (I) [75-35-4] after intragastric, i.v. or i.p. administration to rats was pulmonary; both unchanged I and I-related CO2 were excreted by that route and other I metabolites via the kidneys. Part of the urinary I was of biliary origin. Pulmonary elimination of I and CO2 and urinary excretion of I metabolites after an intragastric dose took 3 days, whereas >60 and 80% of a small i.v. dose were excreted unchanged within 5 min and 1 h after injection, resp. Biotransformation of I gave thiodiglycollic acid [123-93-3] and an N-acetyl-S-cysteinyl-acetyl deriv. as major urinary metabolites together with substantial amts. of chloroacetic acid [79-11-8], dithioglycollic acid [505-73-7], and thioglycollic acid [68-11-1]. It is probable that chloroacetic acid, which is a I metabolite per se, lies on a main metabolic pathway for I, since it affords several metabolites in common with I. Electrolysis of 1 mol. proportion of the

thiodiglycollate metabolite from I or chloroacetic acid gave 1 equiv. of CO2; this evidence is consistent with the transformation of I into chloroacetic acid by a mechanism involving the migration of one Cl atom and the loss of the other one. CO2 may be produced through the action of epoxide hydratase on 1,1-dichloroethylene oxide or by a minor oxidative pathway for chloroacetic acid. The N-acetyl-S-cysteinyl-acetyl deriv. is probably formed via the reaction of 1,1-dichloroethylene oxide and glutathione S-epoxide transferase.

IT **638-23-3**
RL: FORM (Formation, nonpreparative)
(formation of, in vinylidene chloride metab.)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 74 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1976:414144 HCAPLUS
DOCUMENT NUMBER: 85:14144
TITLE: Soluble organic compounds containing sulfur
PATENT ASSIGNEE(S): Societe d'Etudes et Applications Chimiques, Fr.
SOURCE: Belg., 11 pp.
CODEN: BEXXAL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 827639	A1	19750731	BE 1975-155156	19750407
FR 2284319	A1	19760409	FR 1974-30693	19740910
ES 438100	A1	19770116	ES 1975-438100	19750531
NL 7508113	A	19760312	NL 1975-8113	19750708
NL 162361	B	19791217		
NL 162361	C	19800516		
GB 1501138	A	19780215	GB 1975-28961	19750709
CH 602735	A	19780731	CH 1975-9519	19750721
JP 51054590	A2	19760513	JP 1975-107947	19750905
DE 2539863	A1	19760318	DE 1975-2539863	19750908

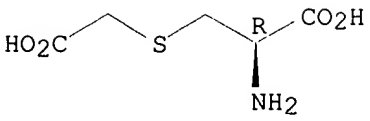
PRIORITY APPLN. INFO.: FR 1974-30693 19740910

AB Five double salts consisting of a 7-theophylline acetic acid deriv., ethylinediamine [107-15-3], and a mercaptoamino acid were effective as respiratory agents. Thus, these salts inhibited histamine-induced broncho spasms, respiratory depression from either morphine or barbiturates, and caused a regression of mucopurulent obstructions from SO2 inhalation. These salts were prepared from solns. contg. equimolar portions of the starting compds.

IT **638-23-3**
RL: RCT (Reactant)
(reaction of, with ethylenediamine and theophylline acetic acid)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

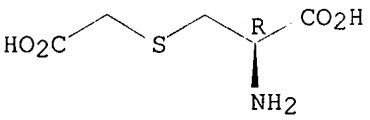


L48 ANSWER 75 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1975:453126 HCAPLUS
DOCUMENT NUMBER: 83:53126
TITLE: Bronchopulmonary uptake of sulfur from carboxymethylcysteine-35S and cysteine-35S in normal rats and rats exposed to sulfur dioxide. Effects of prolonged administration of these two sulfur-containing molecules on bronchopulmonary lesions and on pulmonary uptake of their sulfur
AUTHOR(S): Servin, A.; Garcet, S.; Vu Ngoc Huyen
CORPORATE SOURCE: Cent. Rech., Lab. Joullie, Puteaux, Fr.
SOURCE: Bull. Physio-Pathol. Respir. (1974), 10(3), 315-29
CODEN: BPPRA6
DOCUMENT TYPE: Journal
LANGUAGE: French

AB The uptake of radioactivity by the lungs of normal rats after a single oral dose of 35S-labeled S-carboxymethylcysteine [**638-23-3**] was more tissue-specific than that after labeled cysteine [52-90-4], the tissue-to-plasma ratios of 35S being 2 and 1, resp. In rats with pulmonary lesions consequent to SO2 exposure (used as a model of chronic bronchitis), the tissue-to-plasma ratio of S-carboxymethylcysteine was 3 after a single dose, and 4 after a 5-week treatment (500 mg/kg/day, orally). In the latter case, an improvement in bronchial structure was obsd., esp. a decrease in mucosal goblet cell hyperplasia. This improvement was not seen in cysteine-treated animals, nor was the pulmonary specificity for cysteine altered by 5-week administration. These differences in distribution and pharmacol. activity can be partially explained by the fact that cysteine S was excreted in the urine as inorg. sulfates, whereas S-carboxymethylcysteine was excreted mainly unchanged.

IT **638-23-3**
RL: BIOL (Biological study)
(bronchopulmonary damage from sulfur dioxide response to and lung metab. of)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

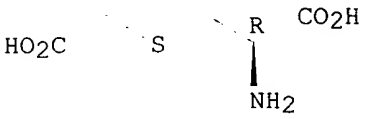


L48 ANSWER 76 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1975:11333 HCAPLUS
DOCUMENT NUMBER: 82:11333
TITLE: Action of chronic administration of S-carboxymethylcysteine on pulmonary protein synthesis disturbances induced by sulfur dioxide in rats
AUTHOR(S): Garcet, S.; Servin, A.; Vu Ngoc Huyen
CORPORATE SOURCE: Cent. Rech., Lab. Joullie, Puteaux, Fr.
SOURCE: C. R. Seances Soc. Biol. Ses Fil. (1974), 168(1), 43-6
CODEN: CRSBAW
DOCUMENT TYPE: Journal

Searched by Barb O'Bryen, STIC 308-4291

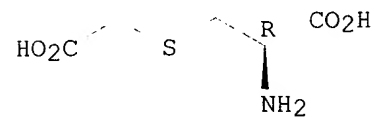
LANGUAGE: French
AB The increased protein formation obsd. in the bronchopulmonary region of rats with exptl. bronchitis induced by SO2 was returned to normal by prolonged oral administration of S-carboxymethylcysteine [**638-23-3**] (500 mg/kg/day).
IT **638-23-3**
RL: BIOL (Biological study)
(protein formation response to, in bronchitis)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 77 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1973:52507 HCAPLUS
DOCUMENT NUMBER: 78:52507
TITLE: Tissue distribution of sulfur-35 as a function of time after oral administration of carboxymethylcysteine-35S. Autoradiography and pharmacokinetics
AUTHOR(S): Servin, A.; Garcet, S.; Vu Ngoc Huyen; Muller, P.; Cohen, Y.
CORPORATE SOURCE: Lab. Pharmacodyn., Fac. Pharm., Paris, Fr.
SOURCE: C. R. Soc. Biol. (1972), 166(4-5), 543-8
CODEN: CRSBAW
DOCUMENT TYPE: Journal
LANGUAGE: French
AB 35S-labeled S-carboxymethylcysteine [**638-23-3**], a drug active on the bronchial mucosa, was very rapidly absorbed after oral administration to mice and was excreted mainly by the kidneys. Autoradiog. and quant. detns. showed the 35S to have particular affinity for the lungs, which took up radioactivity more slowly (max. after 3 hr) but retained it much longer than did the other organs. The activity reached its highest abs. level in the pancreas, whereas it was practically nil in the brain and heart.
IT **638-23-3**
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(metabolism of)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 78 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1971:409880 HCAPLUS
DOCUMENT NUMBER: 75:9880
TITLE: **Mucolytic** formulations containing S-(carboxymethyl)cysteine
INVENTOR(S): Joullie, Maurice; Vu-Ngoc-Huyen; Maillard, Gabriel; Lakah, Lucien; Muller, Pierre

Searched by Barb O'Bryen, STIC 308-4291

PATENT ASSIGNEE(S): Recherches Pharmaceutiques et Scientifiques
SOURCE: Ger. Offen., 11 pp.
CODEN: GWXXBX
DOCUMENT TYPE: **Patent**
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2006486	A	19710422	DE 1970-2006486	19700213
FR 2068398	A6	19710827	FR 1969-34139	19691007
FR 2068398	B2	19730112		
GB 1272881	A	19720503	GB 1970-1272881	19700213
ZA 7006363	A	19710527	ZA 1970-6363	19700917
US 3891749	A	19750624	US 1973-389325	19730817
US 29256	E	19770607	US 1976-692031	19760602

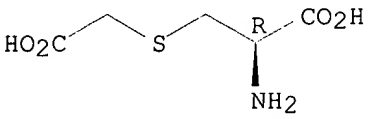
PRIORITY APPLN. INFO.: FR 1969-34139 19691007
US 1970-10999 19700212
US 1973-389325 19730817

AB Formulations of the title compd. (I), optionally in admixt. with antibiotics, antihistaminics, corticosteroids, or bronchodilators, for oral administration were reported. A typical compn. of a capsule was I 50, lactose 40, silica gel 5, and Mg stearate 5 mg.

IT **638-23-3**
RL: BIOL (Biological study)
(**mucolytic** agent)

RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 79 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1967:420418 HCAPLUS
DOCUMENT NUMBER: 67:20418
TITLE: Effect of mucolytic compounds on the experimental intrabronchial mucus retention in rats
AUTHOR(S): Quevauviller, Andre; Huyen-Vu-Ngoc; Garcet, Suzanne; Lakah, Lucien
CORPORATE SOURCE: Fac. Pharm., Paris, Fr.
SOURCE: Therapie (1967), 22(2), 485-93
CODEN: THERAP
DOCUMENT TYPE: Journal
LANGUAGE: French

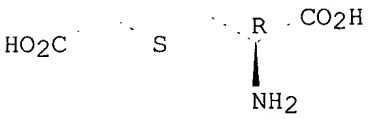
AB Bronchial hypersecretion was induced in female Wistar rats by exposure to SO2 for a total of 110 hrs. over a 16-day period. Some of the rats were treated orally simultaneously with S-carboxymethyl-cysteine (I) (8 g./kg./animal). Twenty-four hrs. after treatment, the rats were sacrificed and the bronchial system observed macroscopically and histol. This in vivo method for detg. mucolytic activity by measuring the retention of intrabronchial mucus in the rat gave evidence of mucolytic activity by I. I had lytic power similar to that of aerosols contg. reducing agents with SH groups.

IT **2387-59-9**
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(mucolytic activity of)
RN 2387-59-9 HCAPLUS

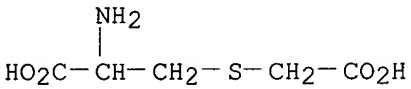
L48 ANSWER 80 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1969:9718 HCAPLUS
DOCUMENT NUMBER: 70:9718
TITLE: The nitrogen pool of animal tissues. Ox liver and bile. Ox kidney and lung
AUTHOR(S): Azumi, Tsukasa
CORPORATE SOURCE: Med. Sch., Okayama Univ., Okayama, Japan
SOURCE: Acta Med. Okayama (1967), 21(6), 321-6
CODEN: AMOKAG
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The compns. of N pools of ox liver, bladder bile, kidney, and lung were analyzed with special emphasis on the minor components, and some distinctive features of these tissues were described. S-(1,2-Dicarboxyethyl-L-cysteine and 3-(carboxymethyl)-L-cysteine were found in ox liver and kidney. Liver was low in free arginine and lysine, but high in ornithine, ethanolamine, and glutathione. Glycine was predominant only in ox bile. All amino acids were present in moderate amts. in kidney, but the glutathione content was low. The concns. of arginine and lysine were relatively high in lung.
IT **638-23-3**
RL: BIOL (Biological study)
(in organs)
RN 638-23-3 HCAPLUS
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L48 ANSWER 81 OF 81 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1967:114378 HCAPLUS
DOCUMENT NUMBER: 66:114378
TITLE: Experimental hypersecretion of bronchial mucus in the rat. II. Application to the study of S-(carboxymethyl)cysteine
AUTHOR(S): Huyen-Vu-Ngoc; Garcet, Suzanne; Lakah, Lucien
CORPORATE SOURCE: Serv. Rech., Lab. Joullie, Puteaux, Fr.
SOURCE: C. R. Seances Soc. Biol. Ses Fil. (1966), 16(10), 1849-51
CODEN: CRSBAW
DOCUMENT TYPE: Journal
LANGUAGE: French
AB Rats were made to breathe air contg. 0.03% of SO2 2-5 hrs./day, 5 days/week, for 16 days. Half or them were given oral doses of S-(carboxymethyl)cysteine, 500 mg./kg./day, during the exptl. period. Without the drug treatment 71% of the rats exposed to SO2 developed severe obstruction of the bronchi by purulent mucus but only 17% of those given the drug showed this effect. The drug apparently has considerable mucolytic activity.
IT **2387-59-9**
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(mucolytic activity of)

L49 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2002 ACS
RN 25390-17-4 REGISTRY
CN Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Alanine, 3-[(carboxymethyl)thio]-, DL- (8CI)
CN DL-Cysteine, S-(carboxymethyl)-
OTHER NAMES:
CN 5-Amino-3-thiadihexanoic acid
CN DL-3-(Carboxymethylthio)alanine
CN S-(Carboxymethyl)-(RS)-cysteine
CN S-(Carboxymethyl)-DL-cysteine
CN S-(Carboxymethyl)cysteine
FS 3D CONCORD
DR **2387-59-9**
MF C5 H9 N O4 S
CI COM
LC STN Files: ANABSTR, BEILSTEIN*, BIOSIS, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, IPA, MEDLINE, NIOSHTIC, RTECS*, TOXCENTER, USAN, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



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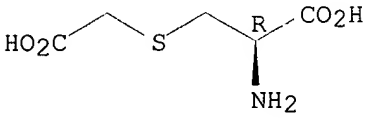
20 REFERENCES IN FILE CA (1967 TO DATE)
20 REFERENCES IN FILE CAPLUS (1967 TO DATE)

L49 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2002 ACS
RN 638-23-3 REGISTRY
CN L-Cysteine, S-(carboxymethyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Alanine, 3-[(carboxymethyl)thio]-, L- (6CI, 8CI)
OTHER NAMES:
CN (L)-2-Amino-3-(carboxymethylthio)propionic acid
CN (R)-S-(Carboxymethyl)cysteine
CN 3-[(Carboxymethyl)thio]-L-alanine
CN Bronchokod
CN Carbocisteine
CN Carbocysteine
CN DF 1794Y
CN L-(Carboxymethyl)cysteine
CN LJ 206
CN Muciclar
CN Mucodyne
CN Mucopront
CN Rhinathiol
CN Rhinatiol
CN Rinatiol
CN S-(Carboxymethyl)-(R)-cysteine
CN S-(Carboxymethyl)-L-cysteine
CN S-Carboxylmethyl-L-cysteine
CN Thiodril

AR **2387-59-9**
FS STEREOSEARCH
DR 11139-64-3
MF C5 H9 N O4 S
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DRUGU, EMBASE, HODOC*, IFICDB, IFIPAT, IFIUDB, MRCK*, NIOSHTIC, PHAR, PHARMASEARCH, PROMT, RTECS*, TOXCENTER, ULIDAT, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



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RN 2387-59-9 HCAPLUS

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